THE

EXTRA PHARMACOPŒIA

MARTINDALE
AND
WESTCOTT

FOURTH EDITION

1885

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PREFACE TO THE FOURTH EDITION.

After a lapse of eighteen years, a new British Pharmacopœia has appeared. The Medical Council, on whom rests the responsibility of publishing the Official Pharmacopœia, engaged the most scientific experts in pharmacy, the three Professors of the Pharmaceutical Society, to prepare this edition; they repudiated the claim of working medical practitioners and of practical pharmacists to have any voice in its production. We find that many of the Drugs, Chemicals, and Preparations of former editions of the Extra Pharmacopœia have been embodied in the official work. We have endeavoured, therefore, in preparing this edition, to include, in an abbreviated form, all the additions and alterations which have been made in the new Pharmacopœia; we preface our work with a Review, pointing out these alterations. Changes in nomenclature, and other causes have compelled us to make a complete revision. We have added about one-fourth more matter in as condensed a form as possible, so that the book may still be suitable for the pocket. We add a new feature—a Secondary List of Drugs; to these medical attention has been more or less directed, but they have not as yet come into general use. The medical references have been brought up to date.

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October 23rd, 1885.

PREFACE TO THE FIRST EDITION.

SIXTEEN years have elapsed since the publication of the last British Pharmacopœia, and during that time a number of new drugs have been introduced, many official ones have been put to new uses, and a number of non-official preparations of both have of necessity been employed in pharmacy. Operative Surgery has been revolutionised by the Antiseptic Treatment of Wounds, Dermatology by the use of Petroleum Ointments, and Therapeutics by the introduction of such important drugs and definite chemical remedies as Salicylic Acid and Salicin, Chloral Hydrate and Croton-Chloral Hydrate, Chrysophanic Acid and Eserine, Gelsemium and Gelsemine, Homatropine and Hyoscyamine, Jaborandi and Pilocarpine, Nitrite of Amyl and Nitroglycerine, Oleated Preparations and Hypodermic Injections. To shortly describe these and their uses is the purpose of this little book. They are viewed specially from a pharmaceutical and medical aspect; references to their use with the doses employed are given in *précis*. The area of selection is limited by personal experience. Official drugs are introduced when non-official preparations of them are in use. The Chemical nomenclature, English or Latinised, is that now generally adopted by chemists, except where official chemicals are referred to, then the British Pharmacopœia names are employed. Following the example of *Chloral* in the British Pharmacopœia the Latin names of many such substances and Glucosides are considered indeclinable. The Index forms a copious Posological Table. The preparation of a new British Pharmacopœia is announced, which it is hoped will be brought up to date; still it will not deprive this Extra Pharmacopœia of its *raison-d'être*.

Much as the author might wish to see the metric system of weights and measures employed in Pharmacy, he is for practical reasons compelled to follow the English system as yet. The terms *Drachm* and *Ounce*, when applied to liquids, are understood to be the Fluid Drachm and Fluid Ounce respectively, as defined by the British Pharmacopœia. When parts are referred to, Solids are to be taken by weight and Liquids by measure, as is generally understood.

Metrical Weights and Measures and their British Equivalents.

1 Gramme ... ... = 15·432 grains.
1 Centigramme ... ... = between $\frac{1}{6}$ and $\frac{1}{7}$ grn.
1 Milligramme ... ... = about $\frac{1}{65}$ grain.
1 Litre ... ... = 35·2754 fluid ounces.
1 Cubic Centimètre (1 c. c. = 1 Millilitre ... ... = 17 minims (nearly).
1 Mètre ... ... = 39·37079 inches.

The Gramme has its decimal multiples—Decagramme, Hectogramme, and Kilogramme; and divisions—Decigramme, Centigramme, and Milligramme. The Litre and Mètre have their corresponding decimal divisions—Decilitre, Centilitre, and Millilitre,—and Decimètre, Centimètre, and Millimètre.

In Continental states, where this system is now generally adopted for the dispensing and preparing of medicines, all liquids are weighed, and the terms Gramme, Centigramme, and Kilogramme only are used. This avoids the possibility of errors, which the similarity of the names Decagramme and Decigramme might lead to.

In Germany the quantities of the ingredients in prescriptions are written in decimal proportions, the gramme being understood to be the unit; the name of the integer is generally not mentioned, thus:

Rhubarb 35· means 35 grammes of Rhubarb.
„ ·035 „ 35 milligrammes „

My thanks are due to Mr. E. M. Holmes, curator of the Museums of the Pharmaceutical Society, and to Mr. F. Passmore, sub-editor of the Pharmaceutical Journal, for many valuable suggestions.

July, 1883. Wm. MARTINDALE.

The references to standard medical works, pharmacopœias, and current medical and chemical periodical literature, will, it is hoped, be found of much assistance to the prescribing physician and the general practitioner. They mainly refer to the therapeutics of the drug in question, although some are almost entirely concerned with physiological action, and others direct attention to botanical origin. A few will be found to point out variations in dose from the standard given at the commencement of each article, variations dependent either on some speciality of purpose or on individual experience; others refer to the relief of a disease by a drug which has not previously been used for that purpose.

The meaning of the abbreviations used will be found in the following list. When the reference is to a periodical, the number put first is the number of the volume; then follow the last two figures of the year, and the last number refers to the page.

B.—Bartholow, R., A Practical Treatise of Materia Medica and Therapeutics.
Br.—Braithwaite, Retrospect of Medicine, by W. & J.
B.F.M.Ch. Rev.—The British and Foreign Medico-Chirurgical Review.
B.M.J.—British Medical Journal.
B.S.H.—Pharmacopœia of the British Hospital for Diseases of the Skin.
Chem. News.—Chemical News.
Codex.—Pharmacopée Française.
G.—The Essentials of Materia Medica and Therapeutics, by A. B. Garrod, M.D., and E. B. Baxter, M.D.
L.—The Lancet.
L.H.—Pharmacopœia of the London Hospital.
M.P.C.—The Medical Press and Circular.
M.R.—The London Medical Record.
M.T.G.—The Medical Times and Gazette.
N.R.—New Remedies—New York.
Off.—*Official*—in the British Pharmacopœia.
P.G.—Pharmacopœa Germanica.
P.J.—Pharmaceutical Journal.
P.L.—Pharmacopœia Londinensis, 1851.
Pr.—The Practitioner.
R.—Handbook of Therapeutics, by Sidney Ringer, M.D.
Rank.—Ranking's Abstract of Medical Science.
R.O.H. — Pharmacopœia of the Royal London Ophthalmic Hospital.
T.H.—Pharmacopœia of the Hospital for Diseases of the Throat.
U.C.H.—Pharmacopœia of the University College Hospital.
U.S.—Pharmacopœia of the United States.

July, 1883. W. WYNN WESTCOTT, M.B.Lond.

A REVIEW

OF THE

BRITISH PHARMACOPŒIA, 1885,

Its Additions, Omissions, Changes in Nomenclature, and Principal Alterations.

NOTE.—The prefix * signifies that the drug or preparation was in the Third Edition of the "Extra Pharmacopœia"; † signifies that the drug was introduced by, or the formula, or change in it, was devised mainly by the writer.

Acetum Scillæ.—Proof spirit is omitted from this preparation.

Acidum Arseniosum.—Is described as "an anhydride (not a true acid)." See p. 84.

*Acidum Boricum, *vice* BORACIC ACID.—Formerly used as a test only; is official in the body of the work. It is said to be "easily powdered." See p. 33.

*Acidum Carbolicum.—Crystallized Phenol, Phenic Acid, or Phenic Alcohol, having Sp. Gr. at melting point of 1·060 to 1·066; melting point must not be lower than 91·5° F. Two commercial varieties are recognised under this heading, one in acicular crystals soluble in 18 parts of water, and the other pulverulent, soluble in 12 of water. See p. 37.

*Acidum Carbolicum Liquefactum.—*New.*—The above preparation with 10 per cent. of water. See p. 38.

*Acidum Chromicum.—*New.*—See p. 46.

Acidum Gallicum.—The tannin in galls is decomposed by boiling with diluted sulphuric acid instead of by the slow metamorphosis process.

*Acidum Hydrobromicum Dilutum.—*New.*—Contains 10 per cent. of hydric bromide. See p. 47.

Acidum Hydrocyanicum Dilutum.—Contains 2 per cent. as before; a note is added about its careful storage.

*Acidum Lacticum.—*New.*—See p. 49.

*Acidum Lacticum Dilutum.—*New.*—See p. 49.

Acidum Meconicum.—*New.*— Official to form Liquor Morphinæ Bimeconatis. See p. 51.

Acidum Nitro-Hydrochloricum Dilutum.—The mixed acids are diluted at once, but the mixture must be kept fourteen days before use.—P.J. 1868,580.

*__Acidum Oleicum.__—*New.*—See p. 249.

*__Acidum Phosphoricum Concentratum.__—*New.* —May be made either by the nitric acid oxidation of phosphorus, or the direct combination of this element with oxygen.—See p. 52.

*__Acidum Salicylicum.__—*New.*—Either the derivative from carbolic acid, or that from natural salicylates, *e.g.*, oil of wintergreen (crude salicylate of methyl) may be used. See p. 55.

Acidum Sulphuricum.—The commercial acid containing lead is still directed to be used; the pure distilled acid is now cheap and is employed by most pharmacists.

*__Acidum Sulphuricum Aromaticum.__—Is simply made by mixing sulphuric acid 1½ parts (fluid) with rectified spirit 18 parts and spirit of cinnamon and essence of ginger of each 1 part. Ethyl-sulphuric acid will still be formed in it on keeping. See p.169.

*__Acidum Sulphurosum.__—Contains only 5 per cent. of sulphurous anhydride. It was impossible to keep it containing 9·2 per cent., as before ordered. See p. 62.

*__Aconitina,__ *vice* ACONITIA.—Is still directed to be prepared from the root of Aconitum Napellus.

Adeps Benzoatus.—Is slightly stronger; 2 per cent. of benzoin used.

Adeps Præparatus.—Is not treated with water, as formerly directed.

Æther Aceticus.—Has Sp. Gr. 0·9, *vice* 0·91. See p. 70.

Alcohol Amylicum.—Is rectified, and that passing over between 253° and 260° F. alone used.

Alcohol Ethylicum.—*New.*—*Syn.*—Absolute Alcohol As it has Sp. Gr. 0·797 to 0·8 is not quite absolute; was formerly used as a test only; is now used to prepare ethylate of sodium and chloroform.

Aloe Barbadensis.—Includes the commercial variety known as Curaçoa.

Aloe Socotrina.—Includes the commercial variety known as Zanzibar.

*Aloin.—This may be obtained from any variety of aloes; it is said their products differ slightly, but medicinal properties are similar. See p. 75.

Alumen.—May be either potassium or ammonium alum. In last B.P. the latter only was official.

Alumen Exsiccatum.—Is prepared from potassium, *vice* ammonium alum.

*Ammonii Benzoas, *vice* AMMONIÆ BENZOAS. See p. 32.

Ammonii Carbonas, *vice* AMMONIÆ CARBONAS.

*Ammonii Chloridum.—May be granulated, or in fibrous masses. See p. 76.

Ammonii Nitras, *vice* AMMONIÆ NITRAS. See p. 76.

Ammonii Phosphas, *vice* AMMONIÆ PHOSPHAS.

*Amyl Nitris.—Has now Sp. Gr. 0·880 and 70 per cent. should distil over, at, or below 212° F.

Amylum.—This may be obtained from the grains of maize and rice, as well as from wheat.

Anisi Fructus.—*New.*—The dried fruit of *Pimpinella Anisum.*

Anisi Stellati Fructus.—*New.*—For the production of essential oil (which alone was formerly official); is the dried fruit of *Illicium anisatum*, cultivated in China.

Antimonium Nigrum Purificatum.—Substitutes Antimonium Nigrum. Before use in making preparations, black antimony is to be treated with solution of ammonia, to free it from arsenic.

Antimonium Sulphuratum.—Improved process. P.J. 1872,443.

*Apomorphinæ Hydrochloras.—*New.*—It is said to be "soluble in seven parts of water," in place of 35 parts—an error apparently copied from our last edition. See p. 81.

Aqua.—In dispensing prescriptions, *distilled* water only must be used.

Aqua Anisi.—*New.*—Distilled from anise fruit.

Aqua Destillata.—A series of tests are given.

Aqua Laurocerasi.—Is to be so adjusted in strength that it contains 0·1 per cent. of real hydrocyanic acid.

Areca.—Omitted; only used for dogs.

*Argenti et Potassii Nitras.—*New.*—*Syn.*—Mitigated Caustic—for ophthalmic use. "Toughened caustic," containing 5 per cent. of nitrate of potassium; is also recognised for caustic points.

Arnicæ Rhizoma, *vice* ARNICÆ RADIX.

Arsenii Iodidum.—*New.*—Is official to form Donovan's solution. See p. 85.

Asafœtida, *vice* ASSAFŒTIDA.

*Atropina, *vice* ATROPIA. See p. 87.

*Atropinæ Sulphas, *vice* ATROPIÆ SULPHAS. Process will not yield this "crystalline"; is said to be a poison, and "intended for external application." It is definite and stable if crystallized, and is much used both hypodermically and internally, as well as in suppositories and pessaries. See p. 88.

*Beberinæ Sulphas, *vice* BEBERIÆ SULPHAS.—Is now said probably to be a mixture of sulphates of berberine, nectandrine, and other alkaloids. See p. 93.

Bismuthi Citras.—*New.*—Official to make Bismuthi et Ammonii Citras and Liquor Bismuthi et Ammonii Citratis. See p. 96.

Bismuthi et Ammonii Citras.—*New.*—See p. 96.

Bismuthum Purificatum.—This is now to be purified from other metals by first fusing with a mixture of cyanide of potassium and sulphur, and then with a mixture of dried carbonates of sodium and potassium.

*Butyl-Chloral Hydras.—*New.*—*Syn.*—Croton-Chloral Hydras. See p. 100.

Cadmii Iodidum.—Omitted.

*Caffeina.—*New.*—See p. 101.

*Caffeinæ Citras.—*New.*—See p. 102.

*Calamina Præparata.—Re-introduced from P.L. 1851.—*Syn.*—Lapis Calaminaris Præparat*a* (? Præparat*us*).

Calcii Carbonas Præcipitata, *vice* CALCIS CARBONAS PRÆCIPITATA.

Calcii Hydras, *vice* CALCIS HYDRAS.

*Calcii Hypophosphis, *vice* CALCIS HYPOPHOSPHIS.—The purity of this is now estimated by permanganate of potassium solution. See p. 274.

Calcii Phosphas, *vice* CALCIS PHOSPHAS.

Calcii Sulphas (Native), to make Calx Sulphurata, *vice* PLASTER OF PARIS, as a test.

Calx Chlorinata, *vice* CALX CHLORATA.—Must now yield by volumetric test 33 per cent. of available chlorine; formerly only 30 per cent. was required.

*Calx Sulphurata.—*New.*—*Syn.*—Calcii Sulphidum, should at least contain 50 per cent. of this. See p. 105.

Canellæ Cortex, *vice* CANELLÆ ALBÆ CORTEX.

Cardamomi Semina, *vice* CARDAMOMUM.

*Camphora.—Is in masses as before. Flowers of Camphor (See p. 108), most convenient for use in pharmacy, are not inserted.

Castoreum.—Omitted.

Cataplasma Conii.—Is now made from succuss evaporated to half its volume, *vice* powdered leaves.

Cataplasma Lini.—Olive oil is omitted. The crushed seed is used.

Catechu, *vice* CATECHU PALLIDUM.

Cera Flava.—This and CERA ALBA melt at 146° F. according to test minutely described; used also for CETACEUM.

Charta Sinapis.—As in old "Additions"—produces a useless preparation.

*Chloroformum.—Has now Sp. Gr. 1·497, and 1 per cent. of ethylic alcohol added to preserve it. See p. 120.

†Chrysarobinum.—*New.*—*Syn.*—Araroba; Goa Powder.—The crude substance is official—not the purified drug in general use, obtained by exhausting it with benzol and distilling off the benzol (erroneously known as Chrysophanic Acid). Chrysarobin is said to be the *medullary* matter of the tree; this is incorrect. See p. 126.

*Cimicifugæ Rhizoma.—*New.*—See p. 129.

Cinchonæ Cortex.—This, for the production of alkaloids, may be any species of Cinchona or Remijia that will yield them. See p. 130.

***Cinchonæ Rubræ Cortex.**—The dried bark of cultivated plants of C. succirubra substitutes yellow and pale bark in their galenical preparations. It must yield between 5 and 6 per cent. of total alkaloids, not less than one-half of which shall consist of quinine and cinchonidine. See p. 135.

***Cinchonidinæ Sulphas.**—*New.*—See p. 137.

***Cinchoninæ Sulphas.**—*New.*—See p. 138.

***Coca.**—*New.*—See p. 139.

***Cocainæ Hydrochloras.**—*New.*— See p. 143.

***Codeina.**—*New.*—*Syn.*—Codeia; Codeine.—See p.151.

†**Collodium Vesicans.**—*New.*—Is too viscid. See p.113.

Confectio Scammonii.—Has resin of scammony, *vice* scammony.

***Confectio Sulphuris.**—Has tragacanth added to prevent the ingredients separating.

Conii Fructus.—The dried fruit. Is to be collected when fully developed, but while still green.

Cupri Nitras.—*New.*—*Syn.*—Cupric Nitrate; is in deep-blue prismatic crystals, corrosive, and very deliquescent. Why inserted?

Decoctum Aloes Compositum.—Is slightly stronger in aloes and liquorice, but weaker in saffron and myrrh.

***Decoctum Cinchonæ.**—Made with red bark in No. 20 powder.

Decoctum Ulmi.—Omitted.

***Digitalinum.**—Omitted, as being indefinite.

Dulcamara.—Omitted.

Ecballii Fructus, *vice* ECBALII FRUCTUS.

***Elaterinum.**—*New.*—Official to make Pulvis Elaterini Compositus. See p. 168.

***Emplastrum Belladonnæ.**—Is reddish-brown in colour, stronger, and made with the alcoholic extract of the root. See p. 94.

***Emplastrum Plumbi.**—Slightly less oil is ordered.

Emplastrum Plumbi Iodidi.—Soap is entirely omitted from this preparation; it was said to have the effect decolorising it by decomposing the iodide of lead.

Emplastrum Resinæ and Emplastrum Saponis.—In these curd soap replaces hard soap. What need of both these plasters? They contain the same ingredients.

Emplastrum Saponis Fuscum, *vice* EMPLASTRUM CERATI SAPONIS.

Enema Tabaci.—Omitted.

*Ergotinum.—*New.*—See p. 171.

*Extractum Belladonnæ Alcoholicum.—*New.*—Prepared by percolating 1 of belladonna root in powder with 2½ of spirit, displacing with water (not practicable, the process blocks); the percolate is evaporated to an extract. See p. 94.

Extractum Columbæ.—Is a proof spirit, *vice* aqueous extract.

*Extractum Cascaræ Sagradæ.—*New.*—See p. 305.

Extractum Cimicifugæ Liquidum.—*New.*—See p. 129.

*Extractum Cinchonæ Liquidum.—Red bark is exhausted with hydrochloric acid, glycerine, and water; 12½ per cent. of spirit is added, and the liquid adjusted in strength, so as to contain 5 per cent. by volume of total alkaloids. In making the old Extractum Cinchonæ Flavæ Liquidum, the bark was merely treated with cold distilled water, and was not nearly exhausted. Is much too acid. See p. 136.

*Extractum Cocæ Liquidum.—*New.*—See p. 140.

Extractum Colocynthidis Compositum.—Has curd soap, *vice* hard soap.

*Extractum Ergotæ Liquidum.—Is the same strength as formerly, but it contains less spirit, and the ergot is not now first treated with ether to free it from oil. See p. 171.

*Extractum Gelsemii Alcoholicum.—*New.*—Intended to supplant the eclectic remedy, Gelsemin.

†Extractum Jaborandi.—*New.*—See p. 221.

Extractum Nucis Vomicæ.—Is made with weaker alcohol, and must be standardised, and contain 15 per cent. of total alkaloids. See p. 248.

Extractum Opii and Extractum Opii Liquidum.—Are both to be standardised. The former should contain "about" 20 per cent. and the latter "about" 1 per cent. of morphine.

*Extractum Rhamni Frangulæ and Extractum Rhamni Frangulæ Liquidum.—Are both *new*. See p. 305.

Extractum Sarsæ Liquidum.—Process improved by treating the root first with proof spirit, and then with water, concentrating the latter and mixing the two liquids; 1 = 1 of root.

Extractum Taraxaci Liquidum.—*New*.—Is supposed to represent Liquor Taraxaci. The dried root, in No. 40 powder, is exhausted with proof spirit and water, and the fluid concentrated so that 1 ounce = 1 ounce of dried root.

Ferri Arsenias.—Process improved. See p. 86.

*Ferri et Quininæ Citras, *vice* FERRI ET QUINIÆ CITRAS.

Ferri Iodidum.—Omitted, unstable.

Ferri Oxidum Magneticum.—Omitted.

Ferri Peroxidum Humidum.—Omitted. As an antidote to arsenic, Liquor Ferri Dialysatus is preferred.

*Ferri Phosphas and Syrupus Ferri Phosphatis.—In making these, bicarbonate of sodium is used, *vice* acetate of sodium, to neutralise the mixture of salts.

Ferri Sulphas Exsiccata.—Must contain 97½ per cent. of pure dried ferrous sulphate, estimated by bichromate of potassium solution.

Ferrum Redactum.—Is freed from sulphide by improved process.

*Gelsemium.—*New*.—See p. 191.

*Glycerinum.—Additional tests are given. See p. 194.

Glycerinum Aluminis.—*New*.—See p. 194.

*Glycerinum Amyli.—Contains less glycerine, and has one-third of water added.

*Glycerinum Boracis.—Is made with glycerine 2 parts and water 1 part. See p. 194.

†Glycerinum Plumbi Subacetatis. — *New*. — See p. 195.

†Glycerinum Tragacanthæ.—*New*.—See p. 330.

*Glycyrrhizæ Radix.—May be British or imported. See p. 197.

*Gossypium.—Absorbent wool is the kind recognised.

Hydrargyri Iodidum Viride.—Omitted, without sufficient reason.

Hydrargyri Persulphas, *vice* HYDRARGYRI SULPHAS.

Infusa.—The time required to infuse for buchu, cascarilla, gentian (compound), rhatany, rhubarb, senna, and serpentary is reduced to half an hour; cinchona (acid), cusparia, hop, and valerian to one hour; digitalis to quarter of an hour; and linseed to two hours. To make exact proportional parts, the quassia and digitalis, and some of the ingredients in the compound infusions, have been lessened about 9 per cent.

Infusum Cinchonæ Acidum, *substitutes* INFUSUM CINCHONÆ FLAVÆ.—Has red bark 1 ounce in boiling distilled water 20 ounces, with aromatic sulphuric acid $\frac{1}{4}$ ounce, infused for one hour.

Infusum Digitalis.—Has 28, *vice* 30, grains in 10 ounces.

Infusum Dulcamaræ.—Omitted.

†Infusum Jaborandi.—*New.*—See p. 221.

†Injectio Apomorphinæ Hypodermica.—*New.*—See p. 82.

†Injectio Ergotini Hypodermica.—*New.*—See p. 171

†Injectio Morphinæ Hypodermica, *vice* INJECTIO MORPHIÆ HYPODERMICA, and 1 in 10, *vice* 1 in 12.—See p. 237.

*Iodoformum.—*New.*—See p. 211.

†Jaborandi.—*New.*—See p. 220.

Jalapa.—Has a new test; should yield 10 per cent. of resin, of which not above one-tenth (convolvulin or jalapin of some writers) should be soluble in ether (more dissolved would indicate adulteration with guaiacum or other resins). This test is also applied to Jalapæ Resinæ.

Kamala.—Said now to be obtained from the surface of fruits of Mallotus philippinensis; should not yield more than 4 or 5, or at most 10 per cent. of ash.

*Lamellæ Atropinæ.—*New.*—Contain $\frac{1}{5000}$ grain of sulphate of atropine in each. See p. 88.

Lamellæ Cocainæ.—*New.*—Contain $\frac{1}{200}$ grain of hydrochlorate of cocaine in each. See p. 144.

*Lamellæ Physostigminæ.—*New.*—Contain $\frac{1}{1000}$ grain of physostigmine in each. See p. 277

Limonis Succus.—Is estimated as containing 36 to 46 grains of citric acid in an ounce, *vice* 32·5 grains formerly.

Lini Farina.—Linseed meal is linseed reduced to powder, not freed from oil as formerly.

***Linimentum Aconiti.**—20 ounces of root produce 30 ounces of liniment, *vice* 20 ounces, but will not in reality be weaker. See p. 65.

***Linimentum Belladonnæ.**—20 ounces of root produce 30 of liniment, as Linimentum Aconiti. See p.95.

†**Linimentum Iodi.**—Has Glycerine, *vice* CAMPHOR. P.J. 1870,601.

Linimentum Potassii Iodidi cum Sapone.—Has rather more of curd soap, *vice* hard soap.

Linimentum Saponis.—Contains double the quantity of water it formerly did.

Linimentum Terebinthinæ.—Has one-tenth of water added.

Linimentum Terebinthinæ Aceticum.—Has an equivalent quantity of glacial, *vice* common acetic acid; an improvement, it mixes perfectly.

Liquor Acidi Chromici.—*New.*—See p. 47.

Liquor Ammonii Acetatis Fortior.—*New.*—Carbonate of ammonium 17½ ounces is neutralised with acetic acid and distilled water *q.s.* to 3 pints. The formula is impracticable; the neutralised solution of ammonia and acid, without any water, measures over three pints; by diluting 1 part with 5 of distilled water it forms

Liquor Ammonii Acetatis, *vice* LIQUOR AMMONIÆ ACETATIS.

Liquor Ammonii Citratis Fortior.—*New.*—Citric acid 12 ounces is neutralised with strong solution of ammonia 11 ounces or *q.s.* and distilled water *q.s.* added to one pint (the salt crystallizes out!); by diluting 1 part with 4 of distilled water it forms

Liquor Ammonii Citratis, *vice* LIQUOR AMMONIÆ CITRATIS.

***Liquor Antimonii Chloridi.**—Is still "of a yellowish-red colour," although manufacturers of it have generally to adulterate it with perchloride of iron to give it this colour; it should be *colourless*. See p.80.

Liquor Arsenicalis.—Is about one-eleventh stronger; contains now one per cent. of arsenious acid, or 87 grains in one pint.

Liquor Arsenici Hydrochloricus.—Contains now one per cent. of arsenious acid; is increased about one-eleventh in strength like the above. See p. 85.

*Liquor Arsenii et Hydrargyri Iodidi.—*New.*—*Syn.*—Donovan's Solution, has 45 grains of each, iodide of arsenium and red iodide of mercury, to 10 ounces of distilled water. Dose, 10 to 30 minims.

†Liquor Atropiæ.—Omitted; was a useless preparation. P.J. 1870,520.

*Liquor Atropinæ Sulphatis, *vice* LIQUOR ATROPIÆ SULPHATIS.—Contains now 1 per cent. in camphor water, *vice* 1 grain in 120 minims, or 110 grain-measures. See p. 89.

Liquor Bismuthi et Ammonii Citratis.—*New formula.*—Nitric Acid is omitted. See p. 96.

Liquor Calcii Chloridi.—Re-introduced from P.L. 1836. Is useless, as chloride of calcium is easily dissolved.

Liquor Calcis.—The slaked lime must be washed till free from chlorides.

Liquor Calcis Chlorinatæ, *vice* LIQUOR CALCIS CHLORATÆ.

*Liquor Epispasticus.—New process with acetic ether as a menstruum. See p. 114.

Liquor Ferri Acetatis and Liquor Ferri Acetatis Fortior.—*New.* Ferric hydrate is precipitated by means of excess of ammonia from solution of persulphate of iron 5, diluted with water 40; it is washed, drained, squeezed, and lastly dissolved in glacial acetic acid 3, and water added *q.s.* to 10; after standing, decant. This forms the stronger solution, and of it 1, with water *q.s.* to 4, makes Liquor Ferri Acetatis.

†Liquor Ferri Dialysatus.—*New.*—Sp. Gr. 1·407, should be 1·047.—See p. 186.

*Liquor Ferri Perchloridi Fortior.—Has Sp. Gr. 1·42. Process improved. Must stand Reinsch's test for freedom from arsenic,—important.

Liquor Gutta Percha.—For making Charta Sinapis a solution of india-rubber is used by makers, not gutta-percha.

*Liquor Hydrargyri Perchloridi.—Is not a solution of bichloride of mercury or mercuric chloride as stated, because the chloride of ammonium in it forms with the latter a double salt. See p. 203.

Liquor Hydrargyri Nitratis Acidus.—Is weaker; has Sp. Gr. 2 *vice* 2·246.

*Liquor Iodi.—Is slightly stronger; now contains 5 per cent. of free iodine.

Liquor Magnesii Carbonatis, *vice* LIQUOR MAGNESIÆ CARBONATIS.—Is nominally weaker.

Liquor Magnesii Citratis, *vice* LIQUOR MAGNESIÆ CITRATIS.

*Liquor Morphinæ Acetatis, *vice* LIQUOR MORPHIÆ ACETATIS.—Is one-eleventh stronger; contains 1 per cent., *vice* 1 grain in 120 minims, or 110 grain-measures. See p. 238.

*Liquor Morphinæ Bimeconatis.—*New.*—Said to contain 1¼ per cent. of bimeconate of morphine, and as regards this is equal in strength to tincture of opium. In reality it is stronger. Process of making it is needlessly complex. It is said the precipitate produced by potash is "insoluble in excess," it should be "soluble in excess." See p. 240.

Liquor Morphinæ Hydrochloratis, *vice* LIQUOR MORPHIÆ HYDROCHLORATIS. — Contains 1 per cent.; is $\frac{1}{11}$ stronger. See p. 239.

*Liquor Potassii Permanganatis, *vice* LIQUOR POTASSÆ PERMANGANATIS.—Contains now 1 per cent., and is about one-eleventh stronger. See p. 291.

Liquor Sodæ Chlorinatæ.—Now made by the double decomposition of chlorinated lime 2, carbonate of sodium 3, in distilled water 20. Is slightly different in composition from that made by old process; it will not contain any bicarbonate of sodium. Is about one-fourth stronger than U.S. preparation.

Liquor Sodii Arseniatis.—Is about one-eleventh stronger, contains now 1 per cent. of the dried arseniate. See p. 86.

*Liquor Sodii Ethylatis.—*New.*—See p. 312.

*Liquor Strychninæ Hydrochloratis, *vice* LIQUOR STRYCHNIÆ.—Is about one-eleventh stronger; contains 1 per cent. of strychnine. See p. 317.

Lithii Carbonas, *vice* LITHIÆ CARBONAS.

Lithii Citras, *vice* LITHIÆ CITRAS. Is in crystals.

*Lupulinum.—*New.*—See p. 229.

Magnesia Ponderosa, *vice* MAGNESIA.

Magnesii Carbonas Levis, *vice* MAGNESIÆ CARBONAS LEVIS.

Magnesii Carbonas Ponderosa, *vice* MAGNESIÆ CARBONAS.

Mel Boracis.—Has one-eighth of glycerine added.

*Menthol.—*New.*—See p. 233.

Mistura Ferri Aromatica.—Has red *vice* pale bark. —See p. 184.

Mistura Gentianæ.—Is omitted. Why?

Mistura Scammonii.—Is made with scammony, *vice* resin of scammony; makes a better emulsion.

Mistura Sennæ Composita.—Has Liquid Extract of Liquorice 1 ounce, *vice* Extract of Liquorice ½ an ounce, and 2 drachms of Compound Tincture of Cardamoms extra in each pint.

*Morphinæ Acetas, *vice* MORPHIÆ ACETAS.—Now said it may be made direct from pure morphine.

*Morphinæ Hydrochloras, *vice* MORPHIÆ HYDROCHLORAS.—See p. 239.

*Morphinæ Sulphas.—*New.*—See p. 240.

†Mucilago Tragacanthæ.—*New process.*—See p. 330.

*Oleatum Hydrargyri.—*New.*—See p. 250.

*Oleatum Zinci.—*New.*—See p. 253.

Oleo-Resina Cubebæ.—*New.*—Cubebs are exhausted with ether, which is evaporated or distilled off; the residue, on standing, is to be separated for use as oleo-resin, from the waxy crystalline matter which deposits.

*Oleum Eucalypti.—*New.*—See p. 176.

*Oleum Phosphoratum.—Is stronger; contains about 1 per cent. of phosphorus. See p. 270.

*Oleum Pini Sylvestris.—*New.*—See p. 284.

*Oleum Santali.—*New.*—See p. 255.

Oleum Terebinthinæ.—Is to be rectified if necessary, boiling point 320° F., increasing to 356°; at this point it is entirely volatilized, little or no residue remaining.

Oleum Theobromatis, *vice* OLEUM THEOBROMÆ. Has melting point 86° to 95° F., *vice* 122° F. (!), as stated formerly.

Opium.—May now be obtained from any source for making alkaloids, but that from Asia Minor must only be used for making galenical preparations, and for these it must, when dried and powdered, according to test, yield 10 per cent. of morphine (not less than 9·5 or more than 10·5 per cent.).

Ovi Albumen, *vice* ALBUMEN OVI.

***Paraffinum Durum.**—*New.*—See p. 260.

***Paraffinum Molle.**—*New.*—See p. 260.

***Physostigmatis Semen**, *vice* PHYSOSTIGMATIS FABA.—See p. 276.

***Physostigmina.**—*New.*—See p. 277.

†**Pilocarpinæ Nitras.**—*New.*—See p. 222.

Pilula Aloes et Asafœtidæ, *vice* PILULA ALOES ET ASSAFŒTIDÆ.

Pilula Asafœtidæ Composita, *vice* PILULA ASSAFŒTIDÆ COMPOSITA.

Pilula Colocynthidis Composita.—Has resin of scammony, *vice* scammony.

Pilula Quiniæ.—Is omitted; formula was bad.

†**Pilula Phosphori.**—When dispensed, curd soap is to be added to make it soluble. P.J. 1874,902.

Pilula Aloes et Myrrhæ, Pilula Rhei Composita and **Pilula Saponis Composita.**—Have glycerine as part excipient; is bad for Pilula Rhei Composita.

Pilula Scammonii Composita. — The use of rectified spirit is unnecessary and wasteful. Essence of ginger alone will dissolve the ingredients.

***Podophylli Rhizoma**, *vice* PODOPHYLLI RADIX.

Potassii Acetas, *vice* POTASSÆ ACETAS.

Potassii Bicarbonas, *vice* POTASSÆ BICARBONAS.

Potassii Bichromas, *vice* POTASSÆ BICHROMAS.

Potassii Carbonas, *vice* POTASSÆ CARBONAS.

Potassii Chloras, *vice* POTASSÆ CHLORAS.

Potassii Citras, *vice* POTASSÆ CITRAS.

Potassii Cyanidum.—*New.*—Official, to purify bismuth; may be either in fused masses or in crystals. No dose is mentioned, but $\frac{1}{12}$ to $\frac{1}{4}$ grain may be given; a solution of one grain of the crystals in 23 minims ($20\frac{10}{13}$ grain-measures of distilled water) is equivalent in strength to Acidum Hydrocyanicum

Dilutum (2 per cent.), in place of which it is sometimes used.

Potassii Ferrocyanidum, *vice* POTASSÆ PRUSSIAS FLAVA.

*Potassii Nitras, *vice* POTASSÆ NITRAS.

*Potassii Permanganas, *vice* POTASSÆ PERMANGANAS. Although an improved process, a much more economical one is used commercially. See p. 291.

Potassii Sulphas, *vice* POTASSÆ SULPHAS.

Potassii Tartras, *vice* POTASSÆ TARTRAS.

Potassii Tartras Acida, *vice* POTASSÆ TARTRAS ACIDA. Test allows for impurity.

Pulvis Cretæ Aromaticus.—*May* be prepared of a bright yellow colour, if desired.

Pulvis Elaterini Compositus, *vice* PULVIS ELATERII COMPOSITUS. — Has 1 of Elaterin to 99 of sugar of milk. See p. 168.

†Pulvis Glycyrrhizæ Compositus.—Is the German formula, excepting that sublimed sulphur is ordered in place of washed sulphur. See p. 198.

Pulvis Rhei Compositus.—The powdered Rhubarb must be free from oil, to enable this preparation to mix with water; heavy magnesia may be used to produce a more condensed preparation.

*Quininæ Hydrochloras.—*New.*—See p. 298.

*Quininæ Sulphas, *vice* QUINIÆ SULPHAS.—New Tests are given for presence of cinchonidine, cinchonine, quinidine, and cupreine. Must not contain "much" more than 5 per cent of sulphates of other alkaloids.

*Rhamni Frangulæ Cortex.—*New.*—See p. 305.

*Rhamni Purshiani Cortex.—*New.*—*Syn.*—Cascara Sagrada. For the sake of distinction from Rhamnus Frangula, preparations of this are named Extractum Cascaræ Sagradæ and Extractum Cascaræ Sagradæ Liquidum. See p. 305.

Rhamni Succus.—Omitted.

*Salicinum.—*New.*—See p. 57.

Scammonium.—Must yield about 75 per cent., *vice* 80 or 90 formerly.

Senna Alexandrina.—Now described as dried leaflets of *Cassia acutifolia*, Delile. The obovate variety is not now met with in commerce.

Senna Indica.—The dried leaflets of *Cassia angustifolia*, Vahl.

Serpentariæ Rhizoma, *vice* SERPENTARIÆ RADIX.

Sinapis Albæ Semina and Sinapis Nigræ Semina.—The seeds respectively of *Brassica alba* and *B. nigra*, cultivated in Britain, are described for preparing the powder known as Mustard.

Sodæ Acetas.—Omitted.

Sodii Arsenias, *vice* SODÆ ARSENIAS.—See p. 86.

Sodii Bicarbonas, *vice* SODÆ BICARBONAS.

*Sodii Bromidum.—*New.*—See p. 310.

Sodii Carbonas, *vice* SODÆ CARBONAS.

Sodii Carbonas Exsiccata, *vice* SODÆ CARBONAS EXSICCATA.

Sodii Citro-tartras Effervescens, *vice* SODÆ CITROTARTRAS EFFERVESCENS.—Sugar is added to make the preparation more palatable.

*Sodii Hypophosphis, *vice* SODÆ HYPOPHOSPHIS.—Purity is estimated by permanganate test; outline of process of manufacture only given.

*Sodii Iodidum.—*New.*—See p. 313.

Sodii Nitras, *vice* SODÆ NITRAS.

*Sodii Phosphas, *vice* SODÆ PHOSPHAS.

*Sodii Salicylas.—*New.*—See p. 57.

*Sodii Sulphas, *vice* SODÆ SULPHAS.—See p. 314.

*Sodii Sulphis.—*New.*—See p. 63.

*Sodii Sulphocarbolas.—*New.*—See p. 43.

Sodii Valerianas, *vice* SODÆ VALERIANAS.

Sodium.—*New,* to produce Liquor Sodii Ethylatis. See p. 312.

*Spiritus Ætheris Compositus. — Re-introduced from P.L. 1851. See p. 70.

Spiritus Ætheris Nitrosi.—Is much the same process as last; is said to contain "nitrous compounds, aldehyd, and other substances." Should yield by the nitrometer when freshly prepared 7 times, and after being kept not less than 5 times, its volume of nitric oxide gas.

Spiritus Ammoniæ Aromaticus.—The oils of lemon and nutmeg are distilled with the spirit and some water, the carbonate is dissolved in the solution of ammonia and the last nine ounces of distillate, the solution strained and mixed with the first part of the distilled spirit; has Sp. Gr. 0·886, should be 0·9; must stand test of volumetric solution of oxalic acid for ammonia, and of solution of chloride of barium for carbonic acid.

Spiritus Cinnamomi.—*New.* Oil 1, rectified spirit 49.

Spiritus Tenuior.—Is as before; said to contain by weight 49 per cent., and by volume about 57 per cent., of absolute alcohol.

*Staphisagriæ Semina.—The seeds of *Delphinium Staphisagriæ.* See p. 164.

Stramonii Folia.—Omitted.

*Strychnina, *vice* STRYCHNIA.—See p. 316.

Sumbul Radix.—The dried transverse sections of *Ferula Sumbul.* (? Not in commerce.)

*Suppositoria Acidi Carbolici cum Sapone;
Suppositoria Acidi Tannici cum Sapone;
*Suppositoria Morphinæ cum Sapone.
—Are useless; they will not dissolve *in situ.*

*Suppositoria Iodoformi.—*New.*—See p. 214.

*Suppositoria Morphinæ, *vice* SUPPOSITORIA MORPHIÆ.

Syrupus Chloral.—Contains less water.

Syrupus Mori has more sugar, Syrupus Rhamni is omitted, and Syrupus Sennæ has more spirit.

†Tabellæ Nitroglycerini.—*New.*—See p. 246.

*Thymol.—*New.*—See p. 327.

Tinctura Asafœtidæ, *vice* TINCTURA ASSAFŒTIDÆ.

Tinctura Castorei.—Omitted.

Tinctura Chloroformi et Morphinæ.—*New.*—Equivalent of chlorodyne. See p. 125.

*Tinctura Cimicifugæ.—*New.*—See p. 130.

*Tinctura Cinchonæ, *vice* TINCTURA CINCHONÆ FLAVÆ.—Is prepared from red bark.

*Tinctura Cinchonæ Composita.—Has red *vice* pale bark.

Tinctura Cinnamomi.—Is made with rectified *vice* proof spirit, but proof spirit (!) *q.s.* is directed to be added in this and Tinctura Sumbul to make up loss.

Tinctura Ferri Acetatis.—Is now made by diluting strong solution of acetate of iron 5, with acetic acid 1, rectified spirit 5, and distilled water *q.s.* to 20.

*Tinctura Ferri Perchloridi.—Now contains only 25 per cent. of rectified spirit.

†Tinctura Gelsemii.—*New.*—See p. 192.

†Tinctura Iodi.—Quantity of iodide of potassium is doubled. P.J. 1870,601.

†Tinctura Jaborandi.—*New.*—See p. 221.

Tinctura Kino.—As a menstruum has glycerine 3, water 5, and spirit 12.

Tinctura Laricis.—Is still retained, but never prescribed.

Tinctura Nucis Vomicæ.—The extract of nux vomica is dissolved in a mixture of water 1, rectified spirit 4. Contains 1 grain of alkaloids in 1 ounce.

Tinctura Opii.—Must contain 0·75 per cent. of morphine.

†Tinctura Podophylli.—*New.*—See p. 289.

†Tinctura Quininæ.—Is about one-ninth stronger; is made with hydrochlorate, *vice* sulphate of quinine.

*Tinctura Quininæ Ammoniata, *vice* TINCTURA QUINLÆ AMMONIATA.

Tinctura Sumbul.—Has rectified *vice* proof spirit.

*Trochisci Acidi Benzoici.—*New.*—See p. 32.

*Trochisci Morphinæ, *vice* TROCHISCI MORPHIÆ.

*Trochisci Morphinæ et Ipecacuanhæ, *vice* TROCHISCI MORPHIÆ ET IPECACUANHÆ.

Trochisci Potassii Chloratis, *vice* TROCHISCI POTASSÆ CHLORATIS.

*Trochisci Santonini.—*New.*—See p. 308.

Trochisci Sodii Bicarbonatis, *vice* TROCHISCI SODÆ BICARBONATIS.

Ulmi Cortex.—Omitted.

†Unguentum Acidi Borici.—*New.*—See p. 34.

†Unguentum Acidi Carbolici.—*New.*—See p. 41.

†Unguentum Acidi Salicylici.—*New.*—See p. 59.

*Unguentum Aconitinæ, *vice* UNGUENTUM ACONITIÆ.

*Unguentum Atropinæ, *vice* UNGUENTUM ATROPIÆ.

*Unguentum Belladonnæ.—Is prepared with alcoholic extract of belladonna root, not with green extract; mixes and keeps better.

Unguentum Cadmii Iodidi.—Omitted.

Unguentum Calaminæ.—*New.*—See p. 227.

Unguentum Cetacei.—Has $\frac{1}{55}$ of benzoin digested in it for 2 hours.

†Unguentum Chrysarobini.—*New.*—Is made with crude Goa powder. See p. 127.

*Unguentum Eucalypti.—*New.*—See p. 177.

†Unguentum Glycerini Plumbi Subacetatis, *vice* UNGUENTUM PLUMBI SUBACETATIS COMPOSITUM. See p. 196.

†Unguentum Hydrargyri Ammoniati.—Is 1 in 10, or slightly weaker than before. P.J. 1870,604.

†Unguentum Hydrargyri Nitratis Dilutum.—*New.*—1 to 2 of soft paraffin.

†Unguentum Hydrargyri Oxidi Rubri.—Is 1 to 7 of mixed paraffins.

Unguentum Hydrargyri Subchloridi.—Has benzoated *vice* plain lard.

†Unguentum Iodi.—Has glycerine, *vice* proof spirit. P.J. 1870, 602. In parts, 19 is printed, *vice* 191 of lard.

*Unguentum Iodoformi.—*New.*—1 in 10 benzoated lard. See p. 214.

Unguentum Potassæ Sulphuratæ.—Has a basis of mixed paraffins.

Unguentum Potassii Iodidi.—Has benzoated *vice* plain lard as basis.

Unguentum Resinæ. — Is softened by adding 2 ounces of oil of almonds. Formula is too complex; more than half consists of Unguentum Simplex, and to make Unguentum Resinæ pharmacists as a rule begin at the beginning, and weigh out the ingredients for Unguentum Simplex and the others needed for Unguentum Resinæ.

Unguentum Sabinæ.—Has benzoated, *vice* plain lard

Unguentum Simplex.—Has benzoated, *vice* plain lard

Unguentum Staphisagriæ. — *New.* — Has 1 of crushed seeds digested in 2 of benzoated lard in a water bath for 2 hours, and strained through calico.

Unguentum Sulphuris Iodidi. — Has mixed paraffins as a basis, *vice* lard.

*Unguentum Veratrinæ, *vice* UNGUENTUM VERATRIÆ. —Has also mixed paraffins as a basis, *vice* lard. As ready absorption of this ointment is always required, this change is bad.

†Unguentum Zinci Oleati.—*New.*—See p. 254.

Valerianæ Rhizoma, *vice* VALERIANÆ RADIX.

Vapor Coninæ, *vice* VAPOR CONIÆ.—Has conium juice, *vice* extract. See p. 156.

*Vapor Olei Pini Sylvestris.—*New.*—See p. 285.

Veratri Viridis Rhizoma, *vice* VERATRI VIRIDIS RADIX.

*Veratrina, *vice* VERATRIA.

Vinum Ipecacuanhæ.—Has 1 ounce of acetic acid to macerate, percolate, and exhaust, by further addition of water, 1 ounce of ipecacuanha; the percolate is evaporated to dryness and dissolved in 1 pint of sherry.

Vinum Opii.—Two drachms contain about 1 grain of morphine.

*Vinum Quininæ, *vice* VINUM QUINIÆ.

*Zinci Sulphocarbolas.—*New.*—See p. 44.

Benzolated Amylic Alcohol,—In testing red cinchona bark, is used as a solvent for the alkaloids.

Petroleum Spirit. — *New,* as a test for copaiba; should dissolve one-fourth its bulk.

*Phenol-Phthalein.—*New.*—A test for alkalinity. See p. 325.

Solution of Potassio-Mercuric Iodide.—*New.*—*Syn.*—Nessler's Reagent.—See p. 325.

Mucilage of Starch.—Is used as a test indicator.

Solution of Ferricyanide of Potassium.—Gives a blue precipitate with ferrous, but not with ferric, salts.

Solution of Iodate of Potash.—Is omitted.

Solution of Litmus.—*New.*—*vice* TINCTURE OF LITMUS.—Litmus is to be exhausted of what is soluble in spirit. The residual litmus is to be digested in distilled water, filtered, and used as a test solution. Gives red with acids, blue with alkalies.

Solution of Yellow Chromate of Potassium.—Has red chromate of potassium 295 grains, bicarbonate of potassium 200 grains, distilled water

10 ounces. Dissolve the red chromate first, exactly neutralise with the bicarbonate, boil, and filter. Is used in testing bromide and iodide of potassium; it gives a red colour with volumetric solution of nitrate of silver, but not until any soluble bromide or iodide present is entirely decomposed.

*Tincture of Phenol-Phthalein.—One grain in 500 grains of proof spirit; is used for testing the neutrality of acetates, citrates, and tartrates; it gives an intense red colour with potash or soda. See p. 325.

To sum up,—the compilers, by their numerous additions and alterations, have endeavoured to bring the book fairly up to date, at least from a therapeutic point of view—it is to be hoped to the satisfaction of both medical practitioners and pharmacists. To the former a great number of the alterations are of little importance, but they require the careful attention of the latter body. The omissions, with three exceptions, will be parted with without regret. MISTURA GENTIANÆ was an agreeable bitter tonic; and, although now unofficial, asthmatic patients will not give up smoking STRAMONIUM leaves, from which they receive so much relief; HYDRARGYRI IODIDUM VIRIDE, too, is largely used by surgeons who treat specific diseases. Its supposed instability has condemned it without just cause, as the dose, 1 to 3 grains, in the last B. P. was much too large, $\frac{1}{6}$ to $\frac{1}{2}$ grain being the dose usually given and generally with good results. If prepared with a slight excess of mercury and excluded from light, it keeps fairly stable for a considerable time; it remains green and only gives a trace of mercuric iodide to ether when agitated with it; it will still continue to be largely prescribed. Changes of nomenclature have been made to agree with the theories of modern chemists,—the salts of ammonia, lime, lithia, magnesia, potash and soda are now considered as salts of ammonium, calcium, lithium, magnesium, potassium, and sodium. Alkaloids have the uniform Latinised affix—*ina* (from the U.S. Pharmacopœia), with corresponding English affix—*ine*. Quinia (formerly quina) is now quinina; strychnia, strychnina; morphia, morphina, *Ang.* morphine. It is to be hoped these changes are final. The solutions of active remedies, formerly 1 grain in 2 drachms, are now made to contain 1 per cent.

exactly—1 grain in 100 grain measures or 110 minims. In the galenical preparations of cinchona, cultivated red bark replaces yellow and pale bark. The degree of fineness of powders is indicated by Nos. 20 to 60, being the number of parallel wires in a linear inch of the meshes of the sieves used. The geographical sources of drugs are frequently not named, as their habitats have been much changed by acclimatisation. Many drugs formerly considered as roots were not true roots; to these the term *rhizoma* is given vice *radix;* this has led to an error in the alphabetical arrangement. PODOPHYLLI RHIZOMA is placed before PODOPHYLLI RESINA (two such misplacements occurred in the last B. P.—SACCHARUM PURIFICATUM before SACCHARUM LACTIS, and UVÆ URSI FOLIA before UVÆ). An absurdity in the directions for preparing such preparations as EXTRACTUM COCÆ LIQUIDUM, LINIMENTUM ACONITI, LINIMENTUM BELLADONNÆ, &c., is that we are directed, after maceration, "then transfer to a percolator, and, when the fluid ceases to pass, continue the percolation with more of the spirit," &c. The fluid does not *commence* to pass *until more spirit is added.* The assistance of practical pharmacists would have avoided such inconsistencies, and also the insertion of *crude* in place of *pure* Chrysarobin. Most of the galenical preparations of cinchona, opium, and strychnia are now standardised. Red bark should yield "between" 5 and 6 per cent. of total alkaloids, opium as "nearly" as practicable 10 per cent. of morphine, and tincture of opium "about" 3·3 grains of morphine in a fluid ounce. The words "between," "nearly," "about," &c., show a tenderness in treating the pharmacist in view of the Adulteration of Food and Drugs Act. They also frequently occur in reference to other preparations, *e.g.*, phosphorated oil contains "about" 1 per cent. of phosphorus, kamala "should yield 4 or 5, or at most 10 per cent. of ash," and sulphate of quinine should not contain "much more" than 5 per cent. of sulphates of other alkaloids.

Representing the quantities in the formulæ in duplicate, by old weights and measures and by parts and fluid parts produces a jumble. Besides the term "grain-measures," we have the term "fluid grains" used without any definition of the latter. We are behind every civilised country in this respect. A bolder stroke would have introduced the metric weights and *measures* complete—measures in addition to weights; we should require both, as, although in other countries liquids are dispensed by weighing, we could not give up dispensing fluids by measure without sacrificing to both accuracy and dispatch.

The Posology is defective,—the range of dose is too limited,—the minimum is frequently much too large and the maximum too small. The doses of the preparations of a drug also are not consistent with one another: for example, of Chloroform, the dose is given as 3 to 10 minims; the equivalent dose of this in Aqua Chloroformi would be $1\frac{1}{4}$ to 4 ounces,—the dose is given as $\frac{1}{2}$ to 2 ounces; in Spiritus Chloroformi, the equivalent would be 1 to $3\frac{1}{2}$ drachms,—the dose is given as 20 to 60 minims; of Tinctura Chloroformi Composita, 30 to 100 minims, —the dose is given as 20 to 60 minims; of Tinctura Chloroformi et Morphinæ,* 24 to 80 minims,—the dose is given as 5 to 10 minims (the Morphine and Hydrocyanic Acid in this are comparatively insignificant). Again, the dose of Camphor is given as 1 to 10 grains: Spirit of Camphor equivalent to this would be 10 to 100 minims,—the dose is given as 10 to 30 minims. Of Barbadoes and Socotrine Aloes and their Extracts the same dose is given,—2 to 6 grains,—one grain as a rule will purge; so will 1 grain of Resin of Jalap, yet the dose is given as 2 to 5 grains. The minimum dose of the following, too, is rarely exceeded, and less is more frequently prescribed:—Hypophosphite of Lime, 5 to 10 grains; Extractum Opii, $\frac{1}{2}$ to 2 grains; Extract of Nux Vomica, $\frac{1}{2}$ to 2 grains (2 grains are equal to $\frac{3}{10}$ grain of Strychnia alkaloids!); Tincture of Nux Vomica, 10 to 20 minims; and Liquor Ammoniæ Acetatis, 2 to 4 drachms; Oleum Phosphoratum, 5 to 10 minims (10 minims are equal to $\frac{1}{10}$ grain of Phosphorus!). On the other hand an adult dose of 15 to 30 minims of Liquid Extract of Male Fern will generally prove useless. A better plan of stating the dose in an official work, as so few agree on the subject, is that adopted by the German Pharmacopœia,—the maximum single and daily dose is stated; should the prescriber wish to exceed these, he is instructed to call attention to them by the sign (!).

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* The quantity of Oil of Peppermint in a 10-minim dose of this is stated to be $\frac{1}{80}$ minim,—it should be $\frac{1}{15}$ minim.

In this edition we have, as heretofore, except in one or two cases, adhered to the pharmacopœial dose for official drugs; the other doses are culled from the best authorities. We also repeat that when parts are here referred to, Solids are to be taken by weight, and Liquids by measure.

The *New* British Pharmacopœia came into force as soon as it was published, but a reasonable time must elapse to allow prescribers and dispensers to become fully acquainted with it. From the prescriber's point of view, the preparations most affected are *Extractum Cinchonæ Liquidum: dose,* 5 to 10 minims; and *Infusum Cinchonæ Acidum: dose,* 1 to 2 ounces,—these are now acid preparations, incompatible with alkalies. Should the old preparations be required, they should be distinctly ordered as 1867, or *Extractum Cinchonæ* **Flavæ** *Liquidum* and *Infusum Cinchonæ* **Flavæ.**

ABRUS.

Jequirity Seeds.

Syn.—PRAYER BEADS; JUMBLE BEADS; GUMCHI (*Hindi*); INDIAN LIQUORICE.

These seeds, the produce of *Abrus precatorius*, of a scarlet colour, with a black patch round the hilum, hard and difficult to powder, are innocuous when eaten, but poisonous when placed in wounds or under the skin of animals. An infusion of Jequirity is used to produce purulent ophthalmia for the cure of granular lids; the seeds in powder 3 parts, cold water 500, with hot water 500 afterwards added, is filtered when cold, and applied 3 times in one day, and repeated the second and third days if required. The irritation is caused by a bacillus.—Ophth. Rev. i./83,19 *ex* Annales d'Oculistique ii./82,24; L. ii./83,120,600,742; B. M.J. ii./83,1015.

The ophthalmia is probably caused by a pepsin-like ferment, and not by the bacilli.—B.M.J. i./84,476,564.

Epithelioma, lupoid growths, and sloughy ulcers cured by the inflammation produced by infusion.—L. ii./84,32; Pr. xxxiii.366.

ACIDUM BENZOICUM.

Benzoic Acid (*Off.*).

Syn.—HYDRATE OF BENZOYL.

Dose.—3 to 15 grains, or more.

In feathery, white, flexible crystals with a slight balsamic odour; has a sourish, warm, and persistent taste, and is irritating to the fauces. Obtained for medicinal purposes from benzoin resin. It can also be prepared from the urine of horses, cows, &c., but is then always more or less contaminated with hippuric acid. Soluble 1 in 220 of cold water; very soluble in alcohol, fats, oils, and alkaline solutions (forming benzoates). It prevents fats becoming rancid, as in adeps benzoatus, B.P.

It is said to possess antipyretic properties, and as an antiseptic to be even more powerful than carbolic or salicylic acid.—M.T.G. ii./73,488; P.J. 1875,307.

Four grains of Benzoic Acid with 1 grain of Canada balsam, or 1 minim of glycerine, make a good pill, but it is more frequently administered in solution, as a benzoate.

A saturated aqueous solution, or a solution in spirit or eau de Cologne (about 1 in 40), is very serviceable in relieving urticaria.—R.

A one in 20 solution in rectified spirit, and this diluted with water as required, may be used as an antiseptic solution or lotion. Applied as a dry antiseptic, its dust is irritating to the nostrils of patients and attendants.

Trochisci Acidi Benzoici (*Off.*).

Contain $\frac{1}{2}$ grain in each, with plain sugar; those of T.H. have a red currant basis. Useful as a stimulant voice lozenge.

Ammonii Benzoas (*Off.*).

Dose.—10 to 30 grains, or more.

In colourless laminar crystals; soluble 1 in 5 of cold water, and 1 in 12 of rectified spirit.

Sodii Benzoas.

Dose.—10 to 30 grains; in phthisis, 1 to 4 drachms.

In white granular crystals; soluble 1 in 2 of cold water.

Benzoic Acid and the benzoates have been used in the treatment of phthisis and various febrile diseases, given in large doses, so as to be a germicide to the fever poison.

Benzoate of sodium in distilled water, 5 per cent. solution, is recommended for use as a spray for inhalation in phthisis, &c., to be used to the extent of 7 to 15 drachms daily for an adult, or 15 grains taken 5 to 10 times a day in milk, and continued for several months.—L.ii./79,886; B.M.J. ii./79,982; M.T.G. ii./79,585: Pr. xxiii.415 ; B.M.J. ii./82,125.

In diphtheria, 2 to 4 drachms daily, with 10 per cent. solution, as a spray inhalation.—Pr. xxiii.453 ; Pr. xxiv. 128,131.

Benzoate of sodium as an antipyretic. *Dose.*—2 to 4 drachms.—Pr. xxiii.217.

Successful in the treatment of rheumatic polyarthritis where salicylates fail; in dose up to 4 drachms daily.—Pr. xxv.218.

Use in whooping-cough, scarlet fever, and diphtheria. —M.R. 1880,315.

Editorial notes on therapeutic use in phthisis, &c.—M.T.G. i./79,596 ; B.M.J. i./80,23,72.

On the dog, a powerful hepatic stimulant, but not an intestinal stimulant; likely to prove useful in congestion of the liver, jaundice, &c. – B.M.J i./79,69.

In the treatment of acute rheumatism, doses of 15 to 20 grains every 2 or 3 hours were successful in 5 cases. Should be continued in diminished doses for 24 or 48 hours after the rheumatic symptoms have disappeared.—B.M.J. i./81,336.

Sodii Hippuras, Hippurate of Sodium.

Dose.—5 to 30 grains.

Is met with in commerce as a readily soluble white amorphous powder. Both it and the benzoate are recommended in gout gravel, and calculus as solvents for urates, an alkaline citrate being added if the urine of the patient be abnormally acid; hippuric acid salts react on urates in solution, and in time no trace of uric acid can be detected. Unlike the other organic salts of alkalies in which the acid radicle is decomposed by passing through the system, when taken, Benzoates and Hippurates are found in the urine as Hippurates.—L. i./83,487,579,669.

ACIDUM BORICUM.

Boric Acid (*Off.*).

Syn.—Boracic Acid.

Dose.—5 to 30 grains, or more.

In white, pearly, laminar crystals, unctuous to the touch, without odour; has a bitterish, cooling, not acid taste. Obtained for medical purposes from borax, by the action of sulphuric acid. Soluble 1 in 26 of cold water, 1 in 3 of boiling water, 1 in 22 of rectified spirit, 1 in 5 of glycerine at 32° F., 7 in 10 at 212° F., slightly soluble in volatile oils. May be made into pills with glycerine of tragacanth, or with a fifth of its weight of cream of tartar and of water.

It possesses mild antiseptic and antiputrefactive properties, but is not destructive to all low organic growths, *e.g.*, mould fungus.

Preparations.

Gossypium Acidi Borici, T.H.—See p. 200.

Linteum Acidi Borici.

Lint impregnated with Boric Acid, by passing it through a hot saturated solution coloured with cochineal or litmus, and then dried. It contains about half its weight of Boric Acid.

Lotio Acidi Borici.

Boric Acid, 1; hot water, 20. Dissolve, and when cold use the clear solution.—L. i./75,603.

Pastillus Acidi Borici, T.H. See p. 197.

Useful in aphthous affections of the mouth and throat.

Pessus Acidi Borici.

Ten grains in each, with oil of theobroma.

Styles of Boric Acid for the lachrymal sac and duct are prepared two inches long.

Suppositorium Acidi Borici.

Three grains in each, with oil of theobroma.

Useful in pruritus.

Unguentum Acidi Borici (*Off.*).

Boric Acid, in fine Powder	1
Soft Paraffin	4
Hard Paraffin	2

Melt the paraffins together, sift the Boric Acid into liquid, and stir till cold. This ointment contains one part of acid in seven parts. It is slightly weaker, but of the same consistency as the ointment No. 2 (see below), which it is intended officially to represent.

Unguentum Acidi Borici (Sir Joseph Lister).

White Wax...	1
Paraffin	2
Almond Oil	2

Melt, and add in fine powder

Boric Acid, warmed	1

Mix, and stir till it thickens. Set aside, and when solid reduce by rubbing in successive portions to an uniform smooth ointment.—L. i./75,787.

Unguentum Acidi Borici (Martindale).

	No. 1.	No. 2.	No. 3.
Paraffin (135° or 140°) ...	5 ...	5 ...	5
Vaseline	5 ...	10 ...	15
Boric Acid, in fine powder ...	2 ...	3 ...	4

Melt the paraffin and vaseline together; sift the Boric Acid into the liquid, and stir constantly till cold.

These three ointments contain the same quantity of Boric Acid, or 1 to 5 of basis; they are also made **half** and **quarter strength**, *i.e.*, 1 of the acid to 11 and 1 to 23 of basis respectively. The ointment of full strength is used where cavities exist; the others to superficial wounds which it is desired to heal rapidly.

Boric Acid ointment is applied to surface wounds, burns, eczema, and other sores, as an antiseptic dressing and "healing ointment." On removal, it should leave the wound "clean"—it should adhere to the material on which it is spread, not so much to the sore. It is applied more like a plaster than an ointment. The hard ointment of Sir Joseph Lister is not now much in request. The No. 2 ointment, spread on lint or rag, is most suitable for general use, except in the summer, when it is sometimes too soft. No. 1 should then be used, and for smearing on No. 2 is sometimes too hard, when No. 3 should be used. It is very useful in pruritus ani et pudendi. Boric Acid ointment is also very serviceable as a dressing in the minor surgery on shipboard, steamers particularly. For hot climates, Lister's or No. 1 should be used.

Boric Acid was the basis of two Swedish nostrums—Aseptin, a powder, and Aseptin Amykos, a liquid, used in the preservation of articles of food and as an application to wounds. These, on being tested, were shown to owe their virtues to Boric Acid, which is now one of the principal agents in the antiseptic treatment. Boric Acid is also used largely in some parts of England and other countries for the preservation of milk. It is mild, and perfectly unirritating; even mechanically, the crystals do not irritate the skin, mucous membrane, wounds, ulcers, or granulating sores. Its powder, mixed with starch, forms a useful "dusting powder" for infants, &c. It checks the fetor of perspiration. A little Boric Acid powder sprinkled in the socks or stockings prevents the disagreeable odour of sweating feet. The ointment is used as above described. The lotion and lint are useful in ulcers of the legs and elsewhere. A piece of protective oiled silk, sufficient to cover the sore exactly, is dipped in the boric lotion and first applied, and over this a piece of boric lint, also soaked in the lotion, large enough to extend an inch beyond the protective, is kept *in situ* with a bandage. Boric Acid and Borax with glycerine or honey form valuable applications for aphthæ and stomatitis. Glycerine of Boric Acid is useful for tender corns, and the powdered acid wards off fleas, flies, cockroaches, &c.

References.

Description and antiseptic uses of Boric Acid lotion, lint, and ointment.—L. i./75,603,717,787.

Forms an excellent lotion for vegetable parasitic skin diseases.—L. ii./75,750.

As an ordinary dressing for wounds, either as lotion, lint, or ointment, it is an antiseptic that neither irritates nor inflames.—L. i./76,734.

Boric Acid ointment useful as an antiseptic and healing ointment; wounds kept sweet two days, and dressings removed without disturbing the healing process.—B.M.J. ii./77,411.

Boric Acid lotion checks the bad odour from excessive perspiration of the feet—used to wash the stockings and bathe the feet daily.—B.M.J. ii./80,463; Pr. xxv.371; Pr. xxvii.401.

As a cerate, 10 grains to an ounce for tinea tarsi, and as an eye lotion is very useful in purulent ophthalmia and conjunctival congestion.—Pr. xxv.56.

Beneficial results of its use in combination with sulphuric ether in puerperal fever and diseases of a septic character, in doses of 5 to 15 grains.—Pr. xxiv.254.

Boric Acid neither checks the peptonising action of the gastric juices or the pancreatic secretion, nor the conversion of starch into glucose by the pancreatic or salivary secretions; yet it checks putrefactive fermentation, and a small quantity prevents the conversion of alcohol into acetic acid, while on the other hand the conversion of glucose into alcohol is favoured by the presence of even a very minute quantity of the acid.—P.J. 1882,187.

Boroglyceride.

A patented preparation, made by heating 92 parts of glycerine with 62 parts of Boric Acid. A tough, deliquescent mass is produced, readily soluble in water and alcohol. It is recommended as a powerful antiseptic and preservative of meat, fish, milk, and other food—1 in 40 of water is used. It is also used as a surgical dressing, and given internally in aqueous solution, or in pills combined with althæa.

Use in the treatment of wounds.—L. i./82,774,937; L. ii./82,841.

Use in purulent ophthalmia.—L. i./83,273.

For otorrhœa, forms a useful local application.—Pr. xxxiii.47.

ACIDUM CARBOLICUM.

Carbolic Acid (*Off.*).

Syn.—PHENIC ACID; PHENOL; HYDRATE OF PHENYL; PHENYL ALCOHOL.

Dose.—1 to 3 grains.

In colourless crystals liable to become pink; neutral to test paper; obtained commercially from coal tar. The purest acid of commerce—Absolute Phenol or No. 1—melts at 107° F. If, while liquefied, 6 to 10 per cent. of water be added, it becomes hydrated and remains liquid, unless exposed to a low temperature. It dissolves freely in alcohol, ether, chloroform, glycerine, fixed and volatile oils, fats, melted resins,—in vaseline about 1 in 20, water at 56° F. 1 in 14, at 95° F. 1 in 12. With a less quantity of water it forms an oily mixture, not a perfect solution, unless heat be applied; at 155° F. Carbolic Acid and water mix and dissolve in all proportions.

Carbolic Acid is a powerful antiseptic, antiputrefactive, and disinfectant.

Commercial Varieties in general use.

Absolute Phenol, in 1 lb., 4 oz., and 1 oz. stoppered bottles.

Detached crystals, slightly hygroscopic, taste pungent succeeded by a sensation of coldness in the mouth.

No. 1 Carbolic Acid, in 1 lb. bottles.

Of the same degree of purity as Absolute Phenol, but occurring in solid acicular crystalline masses. One part of either absolute phenol or No. 1 acid will make a perfect solution in 14 parts of water at 56° F. These are best adapted for surgical and medical use. They have not the slightest disagreeable odour.

No. 1 Carbolic Acid, *Liquid.*

Six per cent. of water added to the above. It remains liquid at the ordinary temperature.

No. 2 Carbolic Acid, *Crystals,* in 1 lb. bottles; and

No. 2 Carbolic Acid, *Liquid,* in 6 oz. bottles, or in bulk.

These make a clear solution in 18 parts of water, are suitable for many surgical purposes, and, as they have no disagreeable odour, they are, being less costly than the above, adapted for use in the sick-room; 1 in 40 may be sprinkled about, &c.

No. 4 Carbolic Acid, *Liquid,* in 16 oz. bottles, or in bulk.

This consists of about 20 per cent. Carbolic Acid and 80 per cent. cresylic acid, and is suitable for use as a household disinfectant for drains, sinks, water-closets, urinals, &c. A solution 1 in 40 of hot water is best used at night. It is colourless or pale straw coloured.

No. 5 Carbolic Acid, *Liquid,* in gallon jars or bulk. Is adapted for stable use, dust-bins, &c.

Preparations.

Acidum Carbolicum Liquefactum (*Off.*).

Carbolic Acid liquefied by the addition of 10 per cent. of water.

Carbolic Acid, Camphorated.

Absolute Phenol	12
Camphor	4
Water	1

Melt or rub together till liquefied. Remains liquid at low temperatures, but is not miscible with water.

Carbolic Acid Gauze, Carbasus Acidi Carbolici. In 6-yard pieces.

Unbleached cotton gauze, medicated with half its weight of—

Carbolic Acid	1
Resin	4
Paraffin	4

B.M.J. ii./71,227; P.J. 1872,41; L. ii./79,901.

Carbolic Acid Lotion.

Carbolic Acid	1
Water	19 or more.

Carbolic Oil.

Carbolic Acid, crystals	1
Olive Oil	9 (more or less, if ordered)

A modification of this, known as **Lund's Oil,** is used for oiling catheters; it is—

Absolute Phenol	1
Castor Oil	4
Olive Oil	11

As the olive oil crystallizes in winter, the following answers better:—

Absolute Phenol	1
Castor Oil	7
Almond Oil	8

Carbolised Catgut Ligatures. Nos. 0, 1, 2, and 3.

No. 0 is finest.—B.M.J. i./69,303; P.J. 1872,41; Pr. xxv.372.

Carbolised Iodine Solution.

Tincture of Iodine...	45
Absolute Phenol	6
Glycerine	450
Hot Water	2,250

Becomes decolorised.

As a pigment in diphtheria, or as a gargle or inhalation. Internally for Asiatic cholera.—L. ii./83,566.

Useful as a nasal douche in ozœna.—L. ii./67,119; L. ii./83,845,935.

Carbolised Silk, for Ligatures.

Carbolic Acid, in crystals	1
Yellow Wax, melted	9

Dissolve the acid in the wax, soak the silk in the solution and draw it through a cloth to remove the superfluous wax.

Carbolised Tow.

Tow impregnated with tar, and containing 10 per cent. of Carbolic Acid.

Carbolised Wool, in 1 lb. packets.

Cotton wool charged with 6 per cent. of Carbolic Acid.

Capsules of Carbolic Acid.

Contain one drachm in each glass tube, sufficient for half a pint or a pint of lotion; are portable and suitable for the use of obstetricians and surgeons.

Glycerinum Acidi Carbolici (*Off.*).

Carbolic Acid, crystals, 1; Glycerine, 4.

Iodized Phenol.

Iodine	1
Liquid Carbolic Acid, by weight ...	4

Rub together and digest till dissolved.

For intra-uterine medication on cotton "lap."—B.M.J. i./80,471, and Pr. xxv.297. Useful also as an application for ringworm of the scalp.

Mackintosh Sheeting, Pink Hat-lining of Commerce.

Used as an antiseptic dressing.—B.M.J. ii./71,227.

Oiled Silk Protective.

Oiled silk coated on both sides with copal varnish, and when dry brushed over with—

Dextrin	1
Starch	2
Carbolic Lotion (1 in 20)	16

B.M.J. i./71,31; P.J. 1872,42.

Pastillus Acidi Carbolici, T.H.

Carbolic Acid	½ grain.
Glyco-gelatine	18 grains.

Antiseptic and stimulant.

Perles of Carbolic Acid.

Globules of carbolic oil, containing one grain of Carbolic Acid in each. *Dose.*—1 or 2.

Pilula Acidi Carbolici.

Absolute Phenol	2 grains.
Glycerine	¼ minim.
Powdered Althæa	3 grains.

Makes a good pill. *Dose.*—1.

Smelling Salts, Carbolised.

Absolute Phenol	24
Carbonate of Ammonia	16
Strong Solution of Ammonia ...	44
Oil of Lavender	1½
Camphor	3
Pine Sawdust (sifted)	*q.s.*

For coryza, hay fever, influenza, &c.

Suppositorium Acidi Carbolici.

Oil of Theobroma, melted ...	14 grains.
Absolute Phenol	1 grain.

The Suppository of Carbolic Acid with Soap (*Off.*) is almost useless, it dissolves so slowly.

Trochisci Acidi Carbolici, T.H.

One grain in each (nominally).

Unguentum Acidi Carbolici (*Off.*).

Carbolic Acid	1
Soft Paraffin	12
Hard Paraffin	6

Melt and stir till cold.

Useful for smearing the hands previous to operations, examination of ulcers, &c.

Vapor Acidi Carbolici.

20 drops of No. 1 liquid acid in a pint of water at 140° F. As a spray, 3 drops to an ounce of water.

Carbolic Soaps

For household, toilet, and medical purposes, are prepared of various strengths up to 20 per cent.

Carbolic putty and Carbolic lac plaster have fallen into disuse.

References.

For gradual development of the surgical uses of Carbolic Acid—Listerism—in the Antiseptic Treatment of wounds, compound fractures, abscesses, &c., *vide* L. i./68,326,357,387,507; L. ii./68,95,335,668; L. ii./75,515; L. ii./79,901; B.M.J. ii./68,53,101,461,515; B.M.J. i./69,301; B.M.J. ii./69,601; B.M.J. ii./70,243; B.M.J. i./71,30; B.M.J. ii./71,225; B.M.J. ii./75,769; B.M.J. ii./77,465,901; Dub. Jour. Med. Sci. Sept. 1875,229, Aug. 1879,97.

As at present used in surgery, the details are given in the Plymouth and Dublin Addresses.—B.M.J. ii./71,225 L. ii./79,901; Dub. Jour. Med. Sci. Aug. 1879,97; P.J. 1872.21,41.

Debate on.—L. ii./79,922; B.M.J. ii./79,906,1001.

Short Directions for Carbolic Dressing.—*a.* Before and during the operation.—(1) Carbolic Acid spray. Steam passing through a solution of 1 part of Carbolic Acid to 20 parts of water. (2) Sponges, hands of operators, &c., dipped in solution of Carbolic Acid: 1 in 20. (3) Instruments covered with oil, containing one-tenth part Carbolic Acid; some are dipped into or kept in watery solution: 1 in 20. (4) During intermission of spray, the wound is covered with a cloth dipped in Carbolic Acid solution: 1 in 20. *b.* After operation.—(1) A strip of lint soaked in an oily solution of Carbolic Acid (1 in 10), or a pure rubber drainage tube, similarly treated, is left hanging from the wound during the first (and, if necessary, following) days. Either of them is cut off flush with the edge of the wound. (2) Over this is placed the protective, in which a small hole is cut, corresponding with the end of the drainage tube. The protective consists of a layer of oiled silk, coated on both sides with copal varnish and afterwards brushed over with dextrin, which latter enables it to become uniformly moistened when dipped into solution of Carbolic Acid: 1 in 40. It is thus immersed just before being laid upon the wound, and is intended to prevent irritation, which would be caused by the actual contact of the antiseptic dressing with the wound. Then (3) seven layers of the antiseptic gauze. (4) Over this is applied the mackintosh, which is about 1 inch less in size than the gauze. (5) Then another layer of antiseptic gauze is applied; and, finally, (6) carbolised bandages, or elastic india-rubber web bandage round the edges of the dressings to insure that these are always in contact with the skin.—M.R. 1879,409 (modified).

Letter on Antiseptic properties of Carbolic Acid.—L. i./72,66.

Use in Ophthalmic Surgery.—B.M.J. i./80,166.

Results of Antiseptic treatment of 100 cases of ovariotomy.—B.M.J. i./80,243.

Diluted sulphuric acid, 10 minims, every hour, recommended as an antidote for internal poisoning by Carbolic Acid.—L. i./80,702.

In poisoning by absorption from antiseptic dressings a lotion of 5 per cent. solution of sulphate of soda is an efficient antidote.—Pr. xxiv.300.

Abstract of 172 cases of antiseptic abdominal sections.—L. i./81,101; B.M.J. i./81,122.

In poisoning by about 1½ ounces of common acid, apomorphia caused emesis with recovery.—L. ii./83,280.

Sawdust enclosed in gauze and charged with phenol 1, spirit 9, recommended as padding and external dressing for wounds.—L. ii./83,494.

In poisoning by Carbolic Acid, the circulation outlives the respiration; atropine counteracts its poisonous action in this respect.—L. ii./84, 418.

As Carbolic Acid coagulates albumen, it is sometimes employed in the strong liquid form as a caustic. Anointing with oil any part accidentally touched with it will, to a certain extent, neutralise its caustic action. Camphorated Carbolic Acid is used with advantage in ulcer of the os and cervix uteri, in chronic inflammation of the uterus and cervix with excoriation, and in chronic uterine catarrh.—R. One in 80 or more of water as a vaginal injection, in leucorrhœa, uterine ulceration, and cancer, cleanses, heals, disinfects, and allays pain. Glycerine of Carbolic Acid is useful in ringworm; and an ointment, 10 to 30 grains of the acid to an ounce of lard, or added to other ointments, is efficacious in various parasitic skin diseases. As an inhalation Carbolic Acid lessens and disinfects the overabundant expectoration in bronchitis and gangrenous lung. The pastil, lozenge, or gargle 1 in 100 of water, is useful in sloughs of the mouth or throat.

Internally, in peppermint water, or better, the pilula acidi carbolici or perle is useful in flatulency with great distention, unaccompanied by pain; it is often combined with rhubarb and extract of nux vomica—a minute quantity of glycerine added will make these combine to form a pill; but Carbolic Acid is more frequently administered as a sulphocarbolate.

Sulphocarbolates of Ammonium, Calcium, Iron, Magnesium, Potassium, Sodium, and Zinc have been used. The action of sulphuric acid on Carbolic Acid with heat produces sulphocarbolic acid, which crystallizes with difficulty.

Sodii Sulphocarbolas (*Off.*).

In white acicular crystals, like sulphate of magnesium. Soluble 1 in 5 of water. *Dose.*—10 to 15 grains in 1 ounce of water.

In flatulency immediately after meals, give dose prior to food; if the attack occurs some time after food, give dose half an hour after meals.—R.

Use in cholera, and the dyspepsia of phthisis.—L. i./69,496, and i./68,144.

Internal use in diphtheria reduces temperature; must be continued some time to prevent relapse.—L. ii./83,448.

Zinci Sulphocarbolas (*Off.*).

Crystals in rectangular colourless plates. Soluble 1 in 2 of water.

Useful in gonorrhœa and leucorrhœa; 2 or 3 grains dissolved in an ounce of water for vaginal or urethral injection.

Solution of Coal Tar.

An alcoholic preparation known as *Liquor Carbonis Detergens* owes its properties in part to Carbolic Acid.

As a lotion, from 1 drachm to 1 ounce to a pint of distilled water forms a yellowish milky emulsion; or, as an ointment, 1 part to from 7 to 15 of basis. Useful in prurigo and chronic scaly skin diseases.

Liquor Bituminis Compositus, L.H.

Coal Tar	1 ounce.
Boiling Water	2 ounces.
Shake well and add	
Tincture of Quillaia* (1 in 5 S.V.R.)	1 pint.

Agitate occasionally in a closed vessel, and after 12 hours filter.

Has similar properties to liquor carbonis detergens.

Aseptol.

Syn.— SULPHO - CARBOL; ORTHOXYPHENYL SULPHUROUS ACID.

Is prepared by mixing in chemically equivalent parts strong sulphuric and carbolic acids, removing the excess of sulphuric acid by carbonate of barium. It is a reddish, volatile, viscous liquid, neither corrosive nor irritant. It has an odour like carbolic acid. Sp. Gr. 1·45. It dissolves readily in water, alcohol, and glycerine; is more strongly antiseptic and disinfectant than either carbolic acid or salicylic acid; it combines directly with bases, forming salts. It has been given internally in doses larger than carbolic acid.—Rep. de

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* Soap-bark, obtained from *Quillaia saponaria*, imported from Chili and Peru; it contains Saponine, which possesses emulsifying properties and causes water in which it is macerated to froth. Saponine is a white amorphous powder, causes sneezing, and has a sweetish but acrid after-taste.

Pharm. 6, 1884, from Journal de Pharm. d'Anvers; Med. Rec. 1885,342.

A 33 per cent. **solution**, having Sp. Gr. 1168, and a straw colour, is supplied in commerce. Is slightly caustic, and hardly at all toxic; recommended in preference to carbolic acid.—L. ii./85,548.

Icthyol.

Syn.—SULPHO-ICTHYOLATE OF SODIUM.

A viscous, brownish, almost black substance, with a disagreeable tarry benzol odour, containing about 10 per cent. of sulphur; is obtained by treating the products of distillation of a bituminous quartz found in the Tyrol, with sulphuric acid and neutralizing with soda. Many remains of fish and other animals are found in the strata whence this quartz is obtained. The deposit is probably the remains of decomposed animals and fish, hence its name—Icthyol. It forms an emulsion with water, which may be conveniently washed off, and may be combined with preparations of lead and mercury without the formation of sulphides. It forms valuable applications for chronic skin diseases. as eczema, psoriasis, acne, and favus; as an embrocation, it relieves the pains of chronic rheumatism.—L. ii./83,120.

One case of stupor following its application to a child of four months old.—B.M.J. ii./84,1013.

Ointments made with 50 and 66 per cent. of this drug, combined with ammonia, are recommended for psoriasis externally in weak constitutions, very sensitive skins, or when these have been affected by stronger remedies.—L. ii./85,577.

Trichlorphenol.

Syn.—TRICHLORPHENIC ACID.

A derivative of carbolic acid, in which 3 atoms of hydrogen are replaced by 3 of chlorine; has been used in St. Petersburg as a disinfectant; is said to be 25 times stronger than carbolic acid. It may be prepared by acting on carbolic acid with chlorinated lime. Is in white acicular crystals, with a disagreeable tarry odour, pungent taste, entirely volatilised by heat. Is very soluble in alcohol, ether, glycerine, fixed and volatile oils; also in hot vaseline, but it crystallizes out on cooling; it is insoluble in water, but forms soluble salts with bases. Those of calcium and magnesium have been used medically; the solid substance is but little irritating to the tissues, and the solutions not at all.

In purulent ophthalmia a 2 per cent. and weaker solutions of Trichlorphenate of Magnesium in 12 cases, with average of nine days' treatment, cures complete.—B.M.J. i./85,69.

ACIDUM CATHARTICUM.

Cathartic Acid.

Dose.—4 to 8 grains for adults, in pills with glycerine of tragacanth; or 2 to 3 grains in syrup.

A chocolate brown amorphous powder, isolated by Dragendorff from Alexandrian senna—the leaflets of *Cassia acutifolia* (*C. lanceolata P.B.*). It has the mild purgative properties of the drug, but not its unpleasant secondary action of causing nausea, vomiting or griping; is almost tasteless, and being soluble in water it is easily administered, sweetened with syrup.—P.J. 1871,222.

ACIDUM CHROMICUM.

Chromic Acid (*Off.*).

Syn.—Chromic Anhydride.

In deliquescent, crimson, acicular or columnar crystals. It is odourless, and a powerful oxidising agent, decomposing alcohol, glycerine, &c., with evolution of heat. It acts as a corrosive caustic.

A watery solution—1 in 4, or stronger—is applied with a pointed glass rod to warts on genitals, to condylomata and lupus; and 1 in 40 to ulcerated gums, and syphilitic affections of tongue, pharynx, and larynx.—Pr. xxx.175.

Chromic Catgut Ligatures (*new*). Nos. 0, 1, 2, and 3. No. 0 is finest (Lister).

Take of Catgut, on the stretch, 5 parts, and immerse for twelve hours in chromic acid 1 part, distilled water 100 parts; transfer, after removing the excess of liquid with a cloth, into 100 parts of sulphurous acid; in 12 hours take out and dry the gut, and keep it dry. Before using, place it along with the instruments for 15 minutes in 1 in 20 carbolic acid lotion.

Liquor Acidi Chromici (*Off.*).

Chromic Acid	1
Distilled Water	3

Acidum Chrysophanicum.—See p. 127.

ACIDUM HYDROBROMICUM DILUTUM.

Diluted Hydrobromic Acid (*Off.*).

Dose.—15 to 50 minims; 60 minims = 10 grains of bromide of potassium.

An aqueous solution containing 10 per cent. by weight of gaseous hydrobromic acid.

It is obtained by passing sulphuretted hydrogen into bromine and water until the mixture is decolorised, filtering out the sulphur which separates, distilling the filtrate, and diluting the distillate with water until it has Sp. Gr. 1·077.

It is a colourless, very sour liquid, without odour. Evaporated to dryness, it leaves little or no residue. It is used to allay nervous excitability and exhaustion, as a solvent for quinine and preventing quinism, and as an alternative for bromide of potassium; 8 minims will dissolve 5 grains of sulphate of quinine.

The acid formerly in use in medicine contained only about 8 per cent. of real acid. It was prepared by decomposing a solution of 5,188 grains of bromide of potassium in 4 pints of distilled water with 6,337 grains of tartaric acid, and after cooling to a low temperature decanting the supernatant acid solution for use; it thus contained some bromide of potassium as an impurity.—B.M.J. ii./76,42.

References.

To obviate the headache of cinchonism and the fulness of the head felt when taking iron; for anæmia; also to remove the ill effects of excess of tea or alcohol; and to calm excited heart.—B.M.J. ii./76,42; P.J. 1877,715; Br. ii./76,356.

Letters on therapeutic uses.—B.M.J. i./77,480.

For tinnitus aurium and tickling hacking cough at night, in doses of 10 minims or more is very useful.—B.M.J. ii./79,316.

Used as a sedative neurotic.—Pr. xx,447.

Used in headache, with flushing in the face and ringing in the ears, also in toothache.—L. i./82,975.

Insomnia relieved by 60 minim doses well diluted.—Pr. xxxiii.296.

In epilepsy, the dose should be full, as much as half an ounce well diluted (this is equal to 36 grains bromide of potassium); 3 ounces daily given to robust patients.—B.M.J. ii./85,587.

ACIDUM HYDROFLUORICUM.

Hydrofluoric Acid.

Syn.—Fluoric Acid.

An aqueous solution of hydrofluoric acid gas, obtained by passing the gas produced by the action of sulphuric acid on fluor spar into water. The impure acid thus prepared is redistilled for medicinal use. The pure redistilled acid contains about 30 per cent. of the gas. It emits suffocating fumes, and requires to be kept in gutta percha or leaden bottles.

Acidum Fluoricum Dilutum, T.H.

Dose.—15 to 60 minims.

Contains a half per cent. of the redistilled acid, and "is kept in glass bottles for use." Even in this diluted condition it quickly acts on the glass and becomes inert.

Goitre, 20 cases treated by diluted hydrofluoric acid in doses of 15 to 70 minims—17 recoveries and 3 failures.—L. i./81,448, 497, 537.

Diphtheria, 40 cases (only 3 died) treated by inhalations of hydrofluoric acid gas; produced by the action of sulphuric acid on fluor spar heated in a leaden vessel. The apparatus requires refilling 5 times in 24 hours.—L. ii./82,543.

Fluoride of quinine, striking success in relieving enlarged spleen and in rickets.—L. ii./84,559.

ACIDUM LACTICUM.

Lactic Acid (*Off.*).

Dose.—5 to 20 minims or more, well diluted.

A colourless, odourless, syrupy, sour liquid, obtained by the lactic fermentation of a solution of sugar; Sp. Gr. 1·21. It is miscible with water, alcohol, and ether, and it coagulates milk and albumen.

Acidum Lacticum Dilutum (*Off.*). Sp.Gr. 1·040.

Lactic Acid	3 ounces.
Distilled Water *q.s.*	1 pint.

Dose.—½ to 2 grains.

This diluted or *medicinal* Lactic Acid is too weak for making the preparations referred to in continental formulæ, and may have led to the discrepancies in the results obtained from Lactic Acid here, as compared with those recorded on the Continent in the treatment of diphtheria and diabetes.

Calcii Lactas. *Dose.*—1 to 5 grains.

An opaque, white, crystalline powder; unless freshly prepared not readily soluble in water.

Ferri Lactas, Lactate of Iron Ferrous Lactate.

Dose.—2 to 10 grains.

In greenish-white crystals, soluble in water; when taken internally is easily assimilated by the system.

Nebula Acidi Lactici, T.H.

Lactic Acid	1 drachm.
Distilled Water	15 drachms.

Of great use in diphtheria; appears to have the effect of dissolving the membranous exudation.

Syrup of Lactophosphate of Lime and **Syrup of Lactophosphate of Lime and Iron** are French specialities. The adult dose of them is 3 to 6 tablespoonfuls daily. The English manufactured syrups corresponding to them are given in 1 or 2 teaspoonful doses. The following formulæ are in use as substitutes:—

Syrupus Calcii Lactophosphatis.—N.R. xii.58.

Lactate of Calcium	(by weight)	5
Orange-flower Water	,, ...	10
Syrup ...	,, ...	80

Rub together, and add

Phosphoric Acid (S.G. 1·500)	,, ...	5
Oil of Lemon mixed with	,, ...	1-30th
Rectified Spirit ...	,, ...	1-10th

Shake well to dissolve, then strain or filter.

Dose.—1 to 2 drachms.

Syrupus Calcii et Ferri Lactophosphatis.

Dose.—1 to 2 drachms.

May be made by dissolving a grain of lactate of iron in each fluid drachm of the syrup of lactophosphate of calcium.

Quininæ Lactas, Lactate of Quinine.—See p. 300.

Zinci Lactas.—See p. 336.

References.

For croup, as lactic acid dissolves the fibrinous exudations; 15 to 20 minims in half an ounce of water used as spray with great success.—M.T.G. i./70,95.

Two cases of diphtheria treated by spray.—B.M.J. i./78,644.

Used as a spray inhalation after tracheotomy for croup.—M.T.G. ii./76,294.

In diabetes, 2 to 4 drachms in half a pint of water, taken during the day, with exclusively animal diet, recommended by Cantani. Also given in dyspepsia.—Stillé and Maisch.

Two cases of diabetes treated by non-amylaceous diet and lactic acid (? diluted lactic acid), half an ounce daily for weeks; no benefit from treatment.—B.M.J. ii./72, 211; M.T.G. ii./72,205.

Lactic acid is a soporific in cases of general enfeeblement and debility following disease, best given as an enema, neutralised by bicarbonate of soda, 5 to 20 grammes of each at bedtime.—M.T.G. ii./76,53.

In catarrh of bladder gave favourable results.—Pr. xxvii.212.

In phthisis, 10 minims twice a day, to allay cough and quench thirst, was useful.—B.M.J. ii./81,470.

In chronic catarrh of the bladder, lactic acid drinks arrest the ammoniacal decomposition of the urine, both inside as well as outside this organ, dissolve the salts which abound in it, and stop the development of microscopic organisms in it.—Pr. xxvii.213.

ACIDUM MECONICUM.

Meconic Acid (*Off.*).

Dose.—?

An acid obtained from opium ; is in nearly colourless micaceous crystals, readily soluble in alcohol, sparingly so in water. The aqueous solution is acid to test and taste, and is coloured red by neutral solution of perchloride of iron; this colour is discharged by *strong* hydrochloric acid. Its solution in water gives no precipitate with liquor iodi (indicating absence of alkaloids, morphine, codeine, &c.). It is official to prepare Liquor Morphinæ Bimeconatis (see p. 240).

Acidum Oleicum, Oleic Acid (*Off.*). — See Oleata, p. 249.

ACIDUM O MICUM.

Osmic Acid.

Syn.—Tetroxide of Osmium, Perosmic Acid, Hyperosmic Acid.

Is in large yellow crystals, which soften like wax. Its vapour is intolerably pungent, attacks the eyes and nostrils strongly and painfully. Its taste is acrid and burning, but it is not acid to test or taste. Soluble slowly about 1 in 50 of water. It is poisonous and a powerful oxidizing body. Separates iodine from iodide of potassium, and converts alcohol into aldehyde and acetic acid.

Liquor Acidi Osmici, 1 per cent. (in water).

Dose.—2 to 10 minims hypodermically.

Is much used for hardening animal tissues preparatory to mounting as microscopic objects ; fat and medullary matter is blackened by it. By becoming reduced into metallic osmium, it blackens nearly everything it comes in contact with, and requires to be stored in glass bottles free from lead.

Injected hypodermically, has been used for neuralgia, and for strumous glands, sarcoma, and cancer.—L. ii./83,919; Pharm. Post, xvi.537; Pr. xxxi.207.

In epilepsy, cured one case, relieved several; used as osmiate of potassium.—L. ii./84,209.

In sciatica, relief obtained from.—L. i./85,58.

In neuralgias of severe type and long standing (note on)—5 cases cured, 2 alleviated, in 1 no success; no ill effects in any.—L. i./85,1096; L. ii./85,216.—Also at intervals of three days 5 minim doses successful, after 4 or 5 injections.—L. i./85,1189.

Injected into goitrous swellings twice a week, gave permanent relief.—Pr. xxxiv.48.

ACIDUM PHOSPHORICUM CONCENTRATUM.

Concentrated Phosphoric Acid (*Off.*).

Dose.—2 to 5 minims.

Hydrated Phosphoric Acid, with 33·7 per cent. of water.

Officially, this may be made either by the nitric acid oxidation of phosphorus in the presence of water, concentrating the solution and adding water to adjust its Sp. Gr. to 1·5, or, by the atmospheric oxidation of phosphorus, and treating the product with water and a little nitric acid. If carefully prepared by the latter process, it can be obtained free from arsenic—a constant impurity in it if prepared by the other process. It contains 47·4 per cent. of phosphoric anhydride. Commercially, it is also prepared, having Sp. Gr. 1·75, and containing 64·3 per cent. of the anhydride. If of this strength, it may be reduced to B.P. strength by adding to each 3 parts by weight 1 part of distilled water.

Acidum Phosphoricum Dilutum (*Off.*). Sp. Gr. 1·08.

Contains 10 per cent. of phosphoric anhydride. It is directed to be prepared by adding to—

Concentrated Phosphoric Acid ...	3 ounces (fluid).
Distilled Water, *q.s.* to	20 ounces.

By weight, to 4½ ounces of the acid add $17\frac{1}{10}$ ounces of distilled water; or the same results may be obtained by diluting 4 parts, by weight, of acid Sp. Gr. 1·75 with 21 of distilled water.

Dose.—10 to 30 minims.

ACIDUM PICRICUM.

Picric Acid.

Syn. — CARBAZOTIC ACID; TRI-NITROPHENIC ACID.

Dose.—¼ to 2 grains.

Is formed by dropping carbolic into fuming nitric acid, heating the mixture, and purifying by re-crystallizing. It is in yellow, shining, luminar crystals, which stain and give an intense deep yellow colour to water, in which it dissolves about 1 in 90. It is used for hardening tissues for microscopic examination, and as a urine test for albumen. (See p. 324.) It is intensely bitter. Its salts of ammonium and potassium have been used medicinally, and have been thought to act like quinine; the latter decomposes and explodes if heated or percussed.

In ague, albuminuria, and some forms of headache it has been used, but it is apt to colour the skin, conjunctiva, and urine yellow.—B.M.J. ii./84,1109.

ACIDUM PYROGALLICUM.

Pyrogallic Acid.

Syn.—PYROGALLOL.

Dose.—½ to 1½ grain in aqueous solution, or in a pill with syrup,—this must be freshly prepared, and kept from the light.

In very light small white crystals prepared from gallic or tannic acids by carefully heating. It is without odour, tastes insipid, producing a sensation of coolness on the tongue. Soluble in 2½ parts of water, and in 10 parts of melted lard. It has great affinity for oxygen, and possesses antiseptic properties. It darkens the skin and hair, and is used in conjunction with a solution of nitrate of silver for blackening the hair. It is also used in photography.

It is given like gallic acid, but in much smaller doses, to check hæmoptysis, and used in the form of ointment, but must not be too freely applied, for psoriasis, on which it seems to have a specific influence.

Preparation.

Unguentum Acidi Pyrogallici, B.S.H.

Syn.—JARISCH'S OINTMENT.

Pyrogallic Acid	60 grains.
Lard	1 ounce.

Mix thoroughly. The acid will be in solution if the lard be melted. Used in cases of psoriasis.

References.

As an internal astringent for hæmoptysis in doses of a grain every half hour until it ceases, also prescribed with ergot for the same purpose, does not cause vomiting nor derange the stomach. — Dub. Jour. Med. Sci. 1878,470 ; Pr. xxii.124.

In psoriasis 10 per cent. ointment constantly applied is painful, but efficacious ; the tubercle is destroyed, but the healthy skin is unaffected.—Pr. xxiii. 207,373.

Therapeutic uses and toxic effects. A patient suffering from universal psoriasis was poisoned by pyrogallic ointment applied to one half of his body, whilst to the other half chrysophanic acid ointment was applied for comparison. — M.R. 1880,49 ; Pr. xxv. 135.—B.M.J. i./81,1007 ; L. ii./81,891.

Proved useful in Hebra's wards in the treatment of psoriasis and other cutaneous affections. 10 per cent. ointment brushed in twice a day and parts covered with flannel.—Pr. xxv.378.

Has powerful affinity for oxygen, hence supposed it might destroy germs. M. Bovet found 1 or 2 per cent. solution prevents formation of organisms ; 2 per cent. solution is a useful disinfectant of the skin.—B.M.J. i./79,278.

Cases of old standing psoriasis cured by use of 10 and 5 per cent. ointment.—L. i./81,576.

Ointments containing 5 to 25 per cent. when brushed on patches of psoriasis cure in four weeks.—Br. ii./79,lix.

Serpiginous sores become healthy when dusted with 1 to 4 of starch.—Pr. xxxiii.51.

In psoriasis, a 5 per cent. ointment is useful to limited surfaces, but not to inveterate patches.—L. ii./85,577.

ACIDUM SALICYLICUM.

Salicylic Acid (*Off.*).

Dose.—5 to 30 grains, or more.

.In light acicular crystals, odourless, the dust of it is irritating to the nostrils, taste sweetish, slightly soluble in cold water (1 in 760), soluble 1 in 4 of rectified spirit, 1 in 120 of olive oil, 1 in 100 of castor oil, and 1 in 200 of glycerine; soluble also in melted fats and vaseline; 20 grains of salicylic acid are rendered soluble in an ounce of water by the addition of 25 grains of borax; solutions of acetate of ammonium and acetate of potassium are recommended for use as solvents, but they only act by forming salicylates of the bases and setting free acetic acid, the odour of which becomes distinctly perceptible; citrate of potassium and phosphate of sodium act as solvents in a similar manner. An aqueous solution of the acid gives a deep violet colour with persalts of iron.

Salicylic acid may be prepared from salicin, from oils of winter-green or tea berry (*Gaultheria procumbens*), sweet birch (*Betula lenta*), *Andromeda Leschnaultii* (an Indian shrub), and other sources, but commercially it is largely prepared by heating carbolic acid with caustic soda in a suitable vessel and passing a stream of carbonic acid through it. Salicylate of sodium is formed, from which the salicylic acid is set free by hydrochloric acid. It requires purification by redissolving, dialysing, and crystallizing. The larger crystals obtained by dialysis, and resembling sulphate of quinine in appearance, are purer than the smaller crystals or the amorphous acid, which is often of a pink tint.

Test.—An alcoholic solution allowed to evaporate spontaneously in a watch-glass should leave a perfectly white residue.

Commercially the acid prepared from oil of winter-green, the *natural* salicylic acid of Mr. J. Williams, is the purest. Oil of winter-green is an impure salicylate of methyl. When treated with caustic potash solution and the volatile matters distilled off, an impure salicylate of potash remains; this is decomposed by hydrochloric acid, and the salicylic acid obtained purified by dissolving and crystallizing finally from weak spirit. It is in crystals resembling those of strychnia, and larger than those prepared from carbolic acid. Officially either kind may be used.

Salicylic acid prevents fermentative and putrefactive processes and is generally an antiseptic. It is largely used for surgical dressings, especially in cancerous affections. It has the advantage over carbolic acid that it has no smell and causes less local irritation, and the disadvantage that it is not volatile, and therefore does not affect the surrounding atmosphere sufficiently. It has been given for various febrile conditions, but particularly for acute rheumatism; for the latter disease salicin is much preferred.

Internally, its effects closely resemble those of quinine, even to the production of ringing in the ears and transient deafness. Large doses alone act as a direct poison on the heart and respiration. It is only partly destroyed in its passage through the organism, and reappears in the urine as late as fifty hours after it has been taken, partly as such and partly as salicyluric acid. Its curative properties are hence due (1) to this resistance to decomposition; (2) to its harmlessness even in gramme doses; and probably (3) to the direct arrest of certain fermentative processes, which we must regard as the exciting cause of various diseases.—Binz.

It has proved useful in the treatment of Menière's disease in small doses.—B.M.J. ii./77, 477.

Salicylic acid may be made into pills with glycerine of tragacanth, but the dose required being large, and being so insoluble in water, it is not often given in the pure state; it is generally given as the salt, salicylate of sodium.

Granular Effervescent Salicylic Acid is prepared, containing 5 grains in 60 grains.

Ferri Salicylas.

Dose.—3 to 10 grains, or more in a pill.

In commerce is found as a purplish brown powder, slightly soluble in water; given as an anti-arthritic tonic and for tonsillitis.

Found useful, on account of its antiseptic and astringent properties and its slight solubility as an application to foul wounds with a tendency to bleeding.—Edin. Med. Jour. 1877,707.

Quininæ Salicylas.—See p. 300.

Sodii Salicylas (*Off.*).

Dose.—10 to 30 grains in water—the taste may be disguised by the addition of a drachm of liquid extract of liquorice.

An odourless, white crystalline powder, or, if prepared from the natural acid in definite shining silky tabular crystals, soluble in its own weight of water, soluble also in rectified spirit. It possesses an unpleasant sweetish taste, but therapeutically it is more pleasant to take and more rapidly absorbed than the free acid. As it is more difficult to judge of the quality of salicylate of sodium, than of the acid, the following solution containing 10 grains of the salt in one drachm is found convenient for dispensing (Squibb):—

Solutio Sodii Salicylatis (1 in 6).

Salicylic acid, well crystallized	437	grains.
Bicarbonate of Sodium ...	270	,,
Distilled Water	4	ounces.

Mix, and when the effervescence ceases filter and add distilled water over the filter q.s. to make the filtrate measure six ounces.

Dose.—1 to 3 drachms = 10 to 30 grains.

Salicylate of Sodium has a stronger action on certain forms of bacteria than carbolic acid, quinine, boracic acid, and alcohol, and one which is scarcely a third less powerful than that of free salicylic acid (Dragendorff and Bucholtz in Binz). It is not compatible with free ammonia, carbonate of ammonia, or aromatic spirit of ammonia; if any of these be added to its aqueous solution, the mixture in a short time turns brown; it will do this irrespective of the source of the salicylic acid, whether natural or artificial.

Salicinum, Salicin (*Off.*).

Dose.—5 to 30 grains in aqueous solution, taste may be covered with liquid extract of liquorice, or small dose in pill with glycerine of tragacanth.

A neutral principle in white tabular scaly or acicular crystals without odour, taste moderately bitter. Soluble 1 in 20 parts of cold water, 1 in 50 of spirit, but not soluble in ether. Obtained commercially from various species of willow bark, contained also in poplar bark and in flower buds of meadow sweet.

Salicin is used in small doses, often combined with valerianates and compound rhubarb pill, as a mild tonic. In large doses it has a specific action over acute rheumatism. It is not so depressing in its action as salicylic acid. Under the influence of a ferment, *e.g.* saliva, it is decomposed with absorption of water into saligenin and sugar, and saligenin is afterwards readily oxidised into salicylic acid.—Binz. It is not adapted for use as an external antiseptic. Is used for ague.

Pulvis Salicylicus cum Talco, P.G.

Salicylic Acid	3
Wheaten Starch	10
Talc	87

Mix to a fine powder. Is used to correct the fetid or excessive perspiration of the feet.

Salicylated Camphor.—See p. 111.

Salicylic Collodion.—See p. 154.

Salicylic Cream.

Salicylic Acid	2 drachms.
Carbolic Acid	1 drachm.
Glycerine	10 drachms.

Rub the salicylic acid to a powder, add the glycerine and carbolic acid, and mix.

Used as pigment when the skin is irritated by the discharge from wounds, &c., under antiseptic dressings.

Salicylic Plasters.

German preparations, containing respectively 38 and 50 per cent. of acid, are used successfully to remove thickened epidermis. — L.ii./S3,951; B.M.J. ii./S3, 1071; B.M.J.i./S4 602.

Salicylic Silk (McGill).

Silk waste, teased and impregnated with 10 per cent. of salicylic acid and a little glycerine. In 1lb. boxes.

Used as a surgical dressing.—L. i./S1,9; L. ii./S1, 623,671.

Salicylic Suet.

Salicylic acid 1, dissolved in melted mutton suet 49. In German army, used for foot sores, sores from riding, &c.

Salicylic Wool (Thiersch).

Cotton wool impregnated with 4 per cent. of salicylic acid, and the same quantity of glycerine to make the acid adhere to the wool.

Salicifrice.—A special preparation.

An antiseptic tooth-paste, having a saponaceous basis and containing salicylic acid. In use it is very refreshing to the mouth and palate.

Unguentum Acidi Salicylici (*Off.*).

Soft Paraffin...	18
Hard Paraffin	9
Melt and add—	
Salicylic Acid	1

Stir until cold. Some prefer it with the acid not dissolved.

References to Salicylic Acid as an Antiseptic.

Spoken of as a much more powerful antiferment than carbolic acid. Forms a valuable antiseptic ointment. An application of salicylic acid and oil removes the fetor, and forms a comforting application to ulcerated cancer of the breast.—L. ii./74,785; L. ii./75,431, 562,871.

Use of, as an antiseptic, &c., in surgical dressings.—B.M.J. ii./75,510,769.

Editorial note on antiseptic properties. It is peculiarly adapted as a toilet requisite for dentifrices, and as a preventive of the disagreeable odour caused by fetid perspiration, without producing any injurious effects.—B.M.J. i. /75,252.

As an ointment for eczema.—L. ii./75,870.

As an ointment or lotion, useful in ringworm.—L. i./80,482.

Used as snuff in hay-fever, acted like magic.—B.M.J. ii./78,101.

Salicylic acid, strychnia, morphia, narcotine, and brucia are all without any effect upon bacteria, even when quite large quantities are put into the solution containing germs, while phenol, spongy iron, alcohol, and permanganate of potassium destroyed bacteria with great rapidity.—Jour. Chem. Soc. xxxix. 258 ; P.J. 1881, 765.

References to Salicylic Acid and to Salicin given internally.

When given boldly in one large dose of one drachm, or in several smaller doses of 20 to 30 grains, to a healthy person, these substances produce results similar to those of large doses of quinine, but small doses are soon tolerated and the physiological effects are not obtained—they cause headache, suffusion of the eyes, flushed face, slight deafness, muscular trembling and weakness, hurried respiration, weak and quickened pulse and render the perspiration and urine less acid (?). It is considered that Salicin is converted into Salicylic Acid in the body, and as such produces the effects. In health, the effect on temperature is but little marked and at times variable.—R.

In disease, they lower the temperature, and have a decided action on pyrexia. They have been employed in most febrile diseases, but it is in acute rheumatism that their chief power is felt. For this disease Salicin is preferred. Large doses do great good. 30 grains every 2 hours, or hourly if required, soon produce a marked effect. These remedies should be continued in smaller doses for ten days after the temperature has become normal.—R.

Salicin, specially recommended for acute rheumatism in doses of 10 to 30 grains every 2, 3, or 4 hours.—L. i./76,342,383.

Also the same, and advised to continue its use for a fortnight after the decline of the disease; it is a pleasant bitter, and may be conveniently prescribed with syrup of orange-peel. Hardly ever produces the unpleasant effects which are seen from taking salicylic acid.—B.M.J. i./76,627.

General recommendations for its use in rheumatic fever.—L. ii./76,601,677 ; L. i./79,875 ; L. ii./79,79.

For a comparison of the salicylic acid treatment of acute rheumatism with that by alkalies.—L. i./80,201, 244,281.

Special advantages of salicin over salicylic acid for rheumatism.—B.M.J. i./81,229.

In rheumatism 40 grains of salicylate of sodium, or 30 grains of salicylic acid every 2 or 3 hours. Note—

5 grains of soda salt are equal to 4 grains of acid.—L. ii./79,905.

Salicylic acid, whilst of doubtful use in chronic rheumatism, is a rapid and radical remedy for the acute form; given in doses of 7½ to 15 grains.—B.M.J. i./76,569.

Whether the acid or its salts be given, they act as a powerful antipyretic. A dose of 5 grammes produces a rapid fall of temperature and perspiration; in acute inflammations the local mischief is not affected by it, but in acute rheumatism the articular pains are dispersed, and a rapid cure often effected.—Pr. xvi.208.

Whilst of most use in acute rheumatism, it has resemblances in action to quinine, and combats malarial poisoning.—Pr. xi.,449.

For cases of rheumatism successfully treated by the acid.—L. i./76,530,737,840; L. ii./76,11,254,681,771.

For a detailed statement of its effects on healthy subject, especially as regards temperature.—Pr.xxiii.184.

Typhoid cases treated with salicylate of sodium, and recommended for use as an antipyretic.—L. i./81,409,455.

Salicylate of sodium useful in typhoid.—L. ii./79,905.

Remarks on the danger attending the use of salicylic acid in acute rheumatism.—L. i./80,327.

Delirium in cases of acute rheumatism, treated by salicylate of soda.—B.M.J. i./81,159,337.

Salicylates of sodium and ammonium, useful in treating acute zymotic diseases, and mixed with honey or made into lozenges for diphtheritic attacks in the throat.—B.M.J. i./79,67.

Acute rheumatism treated by salicylates.—L. ii./81, 1030,1089,1119,1120; L. i./82,9,54,57,134,135,138; B.M.J. i./82,46,459.

Statistics of above treatment in 39 hospitals; while salicylates are said frequently to produce bad effects, none such are attributed to salicin.—L. i./82,57.

Thesis on the salicylate treatment of rheumatism; duration of the acute stage reduced to 3 or 4 days. Convalescence is more rapid, and tendency to heart complication probably less than from any other treatment.—Pr. xxviii.321,401.

Acidum Scleroticum.—See Ergota, p. 173.

ACIDUM SULPHUROSUM.

Sulphurous Acid (*Off.*).

Syn.—SULPHUROUS ANHYDRIDE, OR SULPHUROUS ACID GAS COMBINED WITH OR IN SOLUTION IN WATER.

Dose.—½ to 2 drachms.

Obtained for medicinal purposes by deoxidising sulphuric acid by means of charcoal and passing the gas into distilled water. It is a colourless liquid, having a pungent sulphurous odour, and contains 5 per cent. of sulphurous anhydride. Sp. Gr. 1·027. It is liable to oxidise into sulphuric acid if long kept, and when used for throat affections the presence of more than traces of sulphuric acid is objectionable. It may be freed from this by addition of sulphite of barium as long as a precipitate is thrown down and then decanted from the sediment (sulphate of barium). An alcoholic solution can be made much stronger and is more stable than an aqueous one.

Sulphurous acid is used as a deoxidising antiseptic and disinfectant. It arrests fermentation by destroying the vitality of the organisms producing it. It is often used in the gaseous condition, for disinfecting rooms in which patients suffering from infectious fevers have been nursed. It may be produced by igniting 2 or 3 pounds of sulphur, placed in a strong earthen vessel, which for safety should be supported over a bucket of water, on a pair of tongs laid across it. After the chimney and all crevices have been closed, and paper pasted over apertures in the windows, &c., the sulphur may be ignited by being moistened with methylated spirit and lighted with a match; the sulphur catches readily. The door should then be shut, pasted up with paper and left for six hours. The air should be rendered unfit for respiration, metals exposed in the room should be greased, and coloured materials as much as possible removed, as the gas possesses bleaching properties on some substances.

Sulphurous acid, the solution, is applied externally as a lotion—one part to two or more of water and sometimes a little glycerine added—for parasitic affections such as chloasma, ringworm, pruritus, and thrush, with very good results. It is sometimes sprayed into the throat for tonsillitis and asthma, or used as an inhalation, a teaspoonful to a pint of cold water. Internally, for gastric fermentation accompanied by sarcinæ it is given with success in its combinations, as

Sodii Sulphis, Sulphite of Sodium (*Off.*).

Dose.—5 to 20 grains; or as

Hyposulphite of Sodium. *Dose.*—10 to 60 grains.

This is also used as a lotion, 1 in 10 for chloasma, ringworm, &c. It may be made to evolve sulphurous acid gas as in the following lotion:—

Hyposulphite of Sodium ...	3 ounces.
Diluted Sulphuric Acid ...	½ ounce.
Water	16 ounces.

As a paint for the throat and as a spray in aphthæ and diphtheria and as a fumigation, and its use in the cattle plague.—M.T.G. i./67,492.

Used successfully as a spray for sore-throat, chronic bronchitis, &c.—M.T.G. i./67,549.

In gonorrhœa 1 part to 15 of water injected 3 times a day was effectual.—L. i./81,205.

Sulphurous acid has little effect on bacteria; after 15 days meat solution containing them, and imprègnated with the gas, was bleached, but they were still alive in the strongly acid solution.—Jour. Chem. Soc. xxxix.252; P.J. 1881,765.

A solution 1 in 2 of water, as an antiseptic, is useful in removing fetor of cancerous sores.—B.M.J., i./83,1281.

Sulphocarbol.—See Aseptol, p. 44.

ACONITINA (*Off.*).

Aconitine.

Dose.—$\frac{1}{240}$ to $\frac{1}{60}$ grain may be carefully increased up to $\frac{1}{24}$ grain.

An alkaloid obtained from *Aconitum Napellus*, and probably other species of aconite. In white, generally amorphous, irregular lumps, may be with difficulty obtained in acicular crystals, freely soluble in dilute acids and rectified spirit, soluble also in ether and according to B.P. 1 in 150 of cold water, but this does not apply to the Aconitine of British makers, which requires upwards of 4000 parts of water to form a solution at the ordinary temperature. The English is preferred, next the French, and then the German. English Aconitine (Morson's), according to Flückiger, is supposed to be identical with the Pseud-Aconitine obtained from Bish or Nepaul aconite root, the produce principally of *Aconitum ferox*. Another principle is contained in both *Aconitum Napellus* and *Aconitum ferox*, named by Hübschmann Napellin, but from the two sources the Napellin is not identical.—L. i./82,325.

The crystallized Aconitine obtained by Duquesnel's process from *Aconitum Napellus* is said to be a very potent preparation.

Aconitine is a violent poison, and its action is uncertain, unless that of the same maker be always employed; and, although much has been written of late on it from a chemical point of view, there are still doubts as to which is the more active physiologically, Aconitine or Pseud-Aconitine obtained from *A. ferox*. Aconitine melts at 183° to 184° C.: Pseud-Aconitine at 104° to 105° C.—P.J. 1880,2. When rubbed on the skin, Aconitine causes a tingling sensation, followed by prolonged numbness. It may be administered in the form of pill, carefully rubbed down with a little sugar of milk, and made into a mass with glycerine of tragacanth. The best alkaloid is a somewhat costly preparation.

Aconitum Ferox, A. Heterophyllum and **A. Japonicum.**—See p. 337.

Preparations.

Injectio Aconitinæ Hypodermica.

Aconitine (English)	1 grain.
Diluted Sulphuric Acid ...	*q.s.*
Distilled Water to	½ ounce.

Dilute one drop of the acid with about one drachm of water, and carefully add drop by drop to the aconitine, avoiding excess, till it is dissolved, make up the measure to half an ounce with water.

Dose.—1 to 4 minims.

Oleatum Aconitinæ.

Aconitine	2 grains.
Oleic Acid	100 minims.

Dissolve; may be perfumed—is readily absorbed when painted on for neuralgic affections.

Unguentum Aconitinæ (*Off.*).

Aconitine	8 grains.
Rectified Spirit	½ drachm.
Dissolve, and add	
Lard...	1 ounce.

Mix thoroughly. Should be freshly prepared. A piece the size of a bean is gently rubbed in for facial neuralgia, care being taken not to apply where the skin is broken, or to touch the mucous membranes.

Other Preparations of Aconite.

Emplastrum Aconiti in rubber combination, sheets 7 in. by 5 in., rolls 7 in. by 36 in.

Emplastrum Aconiti et Belladonnæ is also prepared in sheets and rolls as above.

Extractum Aconiti (*Off.*)
(from fresh leaves and flowering tops).

Dose.—$\frac{1}{4}$ to 1 grain.

Extractum Aconiti Radicis Alcoholicum,
Alcoholic Extract of Aconite Root (Fleming).

Dose.—$\frac{1}{10}$ to $\frac{1}{3}$ grain.

Must be carefully distinguished from the preceding.

Linimentum Aconiti (*Off.*).

1½ = 1 of root; useful in neuralgia.

Pastillus Aconiti.—See p. 197.

Pilula Aconiti.

Aconite Root, in powder ...	$\frac{1}{8}$ grain.
Sugar of Milk...	1 grain.
Triturate, and add	
Glycerine of Tragacanth ...	*q. s.*
To make one pill.	

Dose.—1 hourly = 1 minim of tincture.

Tinctura Aconiti (*Off.*).

1 of dried root in 8 of rectified spirit.

Dose.—As a febrifuge 1 minim every 10 minutes or quarter of an hour, for an hour, then repeat dose every hour till skin acts well and temperature is reduced.—L. i./69,44. In chronic cases 5 to 10 minims less frequently.

Fleming's and **Turnbull's Tinctures** of **Aconite** are about five times the strength of the above. They are sometimes ordered for external use, and were given in doses of 1 to 5 minims.

Aconitine is a powerful poison, so are all aconite preparations. It paralyzes all nitrogenous tissues. . . . . it affects all the tissues of the heart, first its ganglia, next its nerves, and last its muscular substance.—R. It acts therapeutically as a depressent, calmative, and diaphoretic. Externally the ointment of aconitine, or aconite liniment painted on either in a pure condition or mixed with belladonna or chloroform liniment, immediately relieves neuralgia, sciatica, and many forms of rheumatism. When effectual they cause a sensation of tingling, and subsequent numbness of the parts to which they are applied. Internally, tincture of aconite is given to control inflammation and to subdue the accompanying fever, with great success, especially if given in the early stages of the disease, in acute sore-throat, tonsillitis, catarrh, scarlatina, gonorrhœa, erysipelas, and other febrile affections, in doses of one minim every hour, it reduces pulse and temperature and causes free diaphoresis.

References.

Use of aconite in all forms of neuralgia, diseases of the heart, rheumatism, and erysipelas.—Fleming on Aconite.

Antagonism of aconitine to digitalin. — B.M.J. Reports 1877,89.

Aconitine of the greatest use in neuralgia of the fifth pair of nerves; dose $\frac{1}{140}$ grain up to $\frac{1}{12}$ grain (? not English.)—Pr. xxii.,457 ; Br. ii./79,xxiii.

Aconitine paralyses peripheral sensory nerves, and augments power of motor nerves.—Pr. xx.185.

Physiological action.—Pr. xx.100 ; Pr. xxii.108.

Hypodermic injection of $\frac{1}{200}$ to $\frac{1}{120}$ grain, useful in trigeminal neuralgia.—Pr. xxiv.136.

Also, $\frac{1}{34}$ grain injected, and dose carefully increased, produces rapid cure in neuralgia.—Pr. xxiv.205.

Fleming's tincture of aconite, one minim every hour in relapsing fever, reduces temperature and pulse, cleans tongue, induces sleep, increases quantity of urine, and promotes perspiration. Superior to Warburg's tincture. —Pr. xxvi.187.

Crystallized aconitine recommended for internal use. The German amorphous aconitine is less powerful than the French, of which $\frac{1}{240}$ grain doses 4 times a day caused alarming effects.—L. ii./80,778.

Note on the variations of strength of different samples of aconitine. Pseud-aconitine acts more on the respiratory system, aconitine more on the heart.—B.M.J.ii./81, 523; Trans. Med. Congress, 1881,i.472.

Letter on the varieties of commercial aconitine, noting the extreme variation of their therapeutic power and poisonous properties, cases of poisoning produced by the substitution of one maker's aconitine for another's, referred to.—B.M.J. i./82,555.

Investigation of Dutch case of poisoning by aconitine. —P.J. 1882,683.

Note on therapeutics of aconitum ferox.—B.M.J. ii./84,1275.

Actæa.—See Cimicifuga, p. 129.

ÆTHER.

Ether (*Off.*).

Syn.—ÆTHER SULPHURICUS; SULPHURIC ETHER; OXIDE OF ETHYL.

Dose.—20 to 60 minims (best given as spirit of ether, which mixes with water).

Chemically ether is alcohol less a molecule of water. Its properties and general medical uses are so well known as to need little description here. Besides its ordinary medicinal uses, ether is now largely employed for producing general anæsthesia, as well as being applied as a local anæsthetic in the form of spray to freeze the part. In causing general anæsthesia ether produces less depression on the heart than either dichloride of ethidene or chloroform, but its use is unpleasant both to the patient and to the operators. Its suffocating action on the patient, if suffering from any lung or bronchial affection, is very irritating, and has proved fatal. Care must be taken not to employ it near a light, as its vapour is very inflammable, and it has to be used freely. *Vide* letters and report on anæsthetics, in which ether is preferred to chloroform.—B.M.J. ii./75,726; B.M.J. ii./80,760, 776,970; B.M.J. i./82,247.

Anæsthesia may be produced by vapour or spray of ether introduced into the rectum.—Pr. xxxiii.58; M.R./84,199; B.M.J. ii./85,659.

Rectal etherisation used successfully for cholera, hoping to destroy the vitality of bacilli, 15 cases—2 convalescent within 24 hours, 1 died, 12 progressed favourably.—L. ii./85,588.

Revelations during anæsthesia from ether.—L. ii./81,9.

Action on the frog's heart, induces very little paralysing effect.—Pr. xxvii.13.

Hypodermically, 20 minims acted as a successful restorative in typhoid fever.—L. ii./83,313.

Also 30 minims hypod. for collapse from post partum hæmorrhage, patient rallied in a few minutes.—L. ii./83, 348, 388.

For surgical collapse, hypodermic dose may be up to a drachm.—L. ii./83,395.

Commercial Varieties in General Use.

(1) *From pure Rectified Spirit.*

Æther (*Off.*) Sp. Gr. 0.735.

Ordinary medicinal ether contains a little spirit and water. It is sometimes inhaled for producing general anæsthesia, but is not so suitable for this purpose as

Æther Purus (*Off.*). Sp. Gr. 0·720; **Absolute Ether.**

Should produce no blue colour when shaken with starch paste and one-fourth its bulk of solution of iodide of potassium.

This is best adapted for producing general anæsthesia. It is a pure and definite substance. It may also be used for local anæsthesia.

(2) *From Methylated Spirit.*

Absolute Ether, Methylated, Sp. Gr. 0·717 to 0·719.

Contains a little methylic ether, and is specially adapted for producing local anæsthesia, as it boils under 80° F. It is not adapted for producing general anæsthesia, being too volatile.

Pure Ether, from Methylated Spirit, Sp. Gr. 0·720.

Methylated ether, well washed to free it from methylic ether, purified and re-distilled. It is well adapted for producing general anæsthesia. Is considered safer than that from pure spirit.—L. i./82,1072.

Methylated Ether, Sp. Gr. 0·730.

Is adapted for common purposes, ice machines, &c. Not fit for medical use.

Preparations.

Æther Phosphoratus.—See p. 269.

Collodium.—See p. 153.

As Ether is a direct stimulant to the pancreas, increases its secretion, and assists in the emulsification of fats, it is valuable in the treatment of consumptives, and is used to form:—

Oleum Morrhuæ cum Æthere.

Cod Liver Oil ...	... 2 drachms.
Pure Ether ...	... 10 minims.

For a dose; ether may be increased to 15 or 20 minims.—B.M.J. i./68,148,543,570.

Its usefulness in phthisis; can be easily digested.—L. i./70,380; L. i./79,859.

American report on its advantages.—L. ii./78,413; M.T.G. ii./79,536.

Perles of Ether, contain about 3 minims in each.

Dose.—1 to 4.

Spiritus Ætheris (*Off.*).

Ether, Sp. Gr. 0·735...	... 1 ounce.
Rectified Spirit ...	... 2 ounces.

Dose.—30 to 90 minims.

The older formula is often ordered, viz.:—

Spiritus Ætheris Compositus (*Off.*).

Ether	8 ounces.
Rectified Spirit	16 ,,
Ethereal Oil*	3 drachms.

Dose.—30 to 90 minims.

Syn.—Hoffmann's Anodyne, but the simple Spirit of Ether is now called Hoffmann's Anodyne in Continental Pharmacopœias.

Tinctura Chloroformi et Morphinæ (*Off.*).—See p. 125.

ÆTHER ACETICUS.

Acetic Ether (*Off.*).

Syn.—ACETATE OF ETHYL.

Dose.—20 to 60 minims.

Is prepared by mixing slowly and keeping cool sulphuric acid 130 with rectified spirit 129, adding acetate of soda 140, mixing well and distilling 180. This distillate is digested with carbonate of potassium for three days. The ethereal fluid is separated and again distilled, all but about 16 parts. This last distillate—Acetic Ether—is a colourless liquid with an agreeable ethereal odour. Sp. Gr. about 0·900; boiling point about 160° F.; soluble 1 in 10 of water and in all proportions of rectified spirit and of ether. It is used as a menstruum in preparing Liquor Epispasticus (see p. 114).

ÆTHYL BROMIDUM.

Bromide of Ethyl.

Syn.—HYDROBROMIC ETHER.

Is prepared by distilling a mixture of alcohol, bromine, and phosphorus. It is a colourless, very volatile liquid with a strong peculiar odour and a sweetish warm

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[*] This is directed to be prepared by gradually mixing 36 ounces of sulphuric acid with 40 ounces of rectified spirit, letting the mixture stand for 24 hours, and then distilling it until the fluid in the retort begins to blacken. The distillate is then shaken with lime-water to neutralise any acid; the supernatant liquid is lastly separated, and after exposure to the air for about 12 hours it is ready for use, as ETHEREAL OIL—Oleum Æthereum, or OIL OF WINE, for making the above preparation.

taste. It has Sp. Gr. 1·419, boils at 105° F. On keeping, it is liable to liberate free bromine.

It has been used, particularly in America, as an anæsthetic, as has also a mixture of Bromide of Ethyl 1 part, Chloroform 3 parts, and Alcohol 4 parts. Also inhaled to relieve migraine.

Bromide of Ethyl Capsules.

Encased in cotton wool and silk, contain 5 minims in each; are convenient for use when fractured.

Produces anæsthesia in 2 or 3 minutes. Its odour remains longer in the breath of the patient than ether or chloroform; it does not irritate the respiratory passages, and it causes less excitement and tendency to struggle than ether or chloroform.—L. i./80,981; B.M.J. i./80,601; Pr. xxiv.384.

Notes and letter on its use for anæsthesia,—one death from, patients manifest a great dislike to its odour.—B.M.J. i./80,565,586,983; M.R. 1880,273.

Useful and safe as a general anæsthetic—is not such a depressent as chloroform; and as a local anæsthetic in neuralgia.—Trans. Med. Cong. 1881,i,449; B.M.J. ii./82,934.

Notes of 15 cases of anæsthesia and its characteristics; is safe as an anæsthetic can be, rapid in its action and pleasant in its effects, and is not inflammable.—Glasgow Med. Jour. March 1880,259.

For local anæsthesia, recommended as spray or simply short covered contact, not necessary to freeze the part all feeling ceases. Is of great service to dentists.—L. i./82,212.

Physiological experiments with.—As an anæsthetic it appears to be as safe as ether, and certainly more so than chloroform.—P.J. 1880,3.

Action on self—inhaled on three occasions.—B.M.J. i./84,812.

ÆTHYL IODIDUM.

Iodide of Ethyl.

Syn.—Hydriodic Ether.

May be obtained by distilling a mixture of alcohol, iodine, and phosphorus. It is a colourless liquid, but liable to become coloured by setting free iodine. It has a penetrating ethereal odour; boils at 148° F., has

Sp. Gr. 1·94; is not inflammable. When dropped on red-hot charcoal, it gives off a purple vapour. It is dissolved by alcohol and ether, but not readily by water.

It is useful inhaled as an anæsthetic to relieve the dyspnœa of bronchitic asthma and œdematous laryngitis.

Preparation.

Iodide of Ethyl Capsules.

Encased in cotton wool and silk, containing 5 minims in each.

The glass capsule is snapped, the fluid absorbed by the wool, &c., and inhaled for four or five minutes. This may be repeated 3 or 4 times a day.

References.

Increases the bronchial secretion, stimulates the respiratory centres;—5 cases of paroxysms of asthma quickly relieved; of advantage in cardiac and laryngeal dyspnœa.—P. xxi.446; M.T.G. i./78,149.

Useful for inhalation in œdema of the glottis from catarrhal laryngitis.—Pr. xxiii,136.

Acts as an antispasmodic in spasmodic asthma and certain forms of nervous dyspnœa: iodine can be detected in the urine 10 minutes after inhalation, and as long as 30 hours after.—Pr. xxv.459.

Inhaled 3 times a day, a woman lost her cough as well as her asthmatic attacks.—L. i./79,220.

The ether in the glass capsules is remarkably pure, containing hardly a trace of free iodine, and, as it is protected from light and air, it is likely to keep. Of course, the patient requires no assistance, and can take one of the capsules from the bed side, even in the dark.—L. ii./79,879.

Iodide of Ethyl has been much recommended for inhalation in asthma, in which cases, it seems to give great relief. M. Sée is very enthusiastic in its praise. It is provided in small capsules, of very thin glass enclosed in silk. Thus, by crushing a capsule, the vapour may be inhaled without risk of excess or any sort of danger or even inconvenience. Like nitrite of amyl (which has been most efficacious in relieving the dyspnœa of advanced phthisis as well as of angina pectoris), the uses of the inhalation of Iodide of Ethyl will be extended, now that this convenient mode of administration has been provided.—B.M.J. i./80,21.

AGARICUS ALBUS.

White Agaric.

Syn.—Polyporus Officinalis; Boletus Laricis; Fungus Laricis; Larch or Purging Agaricus.

Dose.—10 to 30 grains.

In white irregular pieces, deprived of the outer rind, the size of the fist or larger; is light, spongy, friable, but not easily powdered, odour faint, taste sweetish, afterwards acrid and bitter

Under the name of Agaricus are sold preparations of the fly agaric, *Amanita Muscaria* (see Muscarine), from which the White Agaric must be carefully distinguished.

Analyses give discrepant accounts of agaricin, agaric acid, fungin or fungic acid, boletic acid, resins, &c., contained in *Agaricus albus.*

Agaricin, a white crystalline powder, is recommended in doses of $\frac{1}{12}$ to $\frac{1}{6}$ grain.

Agaric is in large doses a purgative, small ones an astringent, given to check night sweating (M.R. 1879,267; Pr. xxiii.209) and diarrhœa, to diminish bronchial secretion, and to dry up the milk after weaning.

For night sweats dose of $\frac{1}{13}$ grain in pill acts in about 6 hours.—L.i./84,405.

Preparations.

Extractum Agarici.

Prepared with rectified spirit.

Dose.—3 to 6 grains in pill.

Tinctura Agarici.

1 in 10 of proof spirit.

Dose.—20 to 60 minims.

In night sweating, 3 grains of extract in pill, 2 at bed-time, generally checked, at times they purged.—Pr. xxix.321.

ALCOHOL ETHYLICUM.

Ethylic Alcohol (*Off.*).

Syn.—Absolute Alcohol.

Is directed to be prepared by dehydrating rectified spirit, first with carbonate of potassium, and then with chloride of calcium, and distilling. The official preparation has Sp. Gr. 0·797 to 0·800, and therefore contains 1 or 2 per cent. of water. It can be commercially obtained of Sp. Gr. 0·796; if chemically pure, it has Sp. Gr. 0·794. It is now official to add to chloroform, and to prepare Liquor Sodii Ethylatis.

ALDEHYDUM DILUTUM.

Diluted Aldehyde, T.H.

A mixture of spirit and Aldehyde (Acetaldehyde) containing 15 per cent. of the latter. Aldehyde is an oxidation product of alcohol preceding the formation of acetic acid, into which, if in the pure state, it readily passes. Diluted Aldehyde is a colourless liquid neutral to test papers, and has an ethereal suffocating odour, producing spasm of the glottis when respired.

Vapor Aldehydi, T.H.

Diluted Aldehyde 80 minims, water to 1 ounce.

A teaspoonful to a pint of water at 140° for an inhalation.

Useful in recent catarrhal congestions and in ozœna.

Paraldehydum, Paraldehyde.

Dose.—30 to 60 minims, or more, in diluted syrup or almond mixture, repeated if needed in ½ an hour.

A colourless liquid at the ordinary temperature, although it, like glacial acetic acid, crystallizes if cooled below 50°F. Sp. Gr. 0·998, may be obtained by treating Aldehyde with dilute sulphuric or nitric acid. Its odour and taste somewhat resemble Aldehyde, but it does not cause the same suffocating action when respired. Soluble 1 in 10 of water. It and its solid congener **Metaldehyde** are polymers of Aldehyde. Metaldehyde is in permanent acicular crystals, insoluble in water.

It resembles chloral in its physiological action, but differs from it in strengthening the heart's action, whilst it diminishes its frequency. It greatly increases the flow of urine, but does not affect the skin, nor does it give rise to digestive disturbances, to headache, or other unpleasant symptoms.—B.M.J.i./83,215,956; L.ii./83, 344; B.M.J.ii./85,99.

In dogs, it lessens the elimination of carbonic acid by about one-half when it causes sleep, and arrests the respiration when it poisons.—B.M.J. i./84,1082.

Used 150 times in asylum practice. A useful hypnotic quicker than chloral in dose of 30 to 90 minims.—L. i./85,201.

Produces calm and untroubled sleep, not followed by head-ache on awaking; it may be injected hypodermically.—L.i./85,723.

As a narcotic, may be given in those heart diseases in which chloral would be dangerous.—Pr. xxxiii.138.

A good narcotic, unless there be gastric irritation. Is antagonistic to strychnine, and is sedative rather than anodyne.—B.M.J. ii./85,95.

ALOIN.

Aloin (*Off.*).

Dose.—½ to 2 grains in a pill with hard soap.

A crystalline principle obtained by evaporating an aqueous solution of aloes acidulated with hydrochloric acid and freed from resin, and setting aside to cool. The crystals obtained are recrystallized from a weak spirituous solution. Aloin occurs in odourless lemon-yellow crystals, having the characteristic taste of aloes; is sparingly soluble in cold water, about 1 in 60; freely so in alcohol. As obtained from the different varieties of aloes, the products differ slightly, but their medicinal properties are similar. It is named Barbaloin. Socaloin, Nataloin, or Zanaloin, as obtained respectively from Barbadoes, Socotrine, Natal, and Zanzibar aloes, these, though not identical, are homologous bodies. Barbaloin is preferred in commerce.—M.T.G.ii./76,177; P.J.1875,208; P.J.1876,70.

The purgative properties of aloes are due to these crystalline principles and to uncrystallizable matter soluble in water, nearly allied to them. For hypodermic injection a warm aqueous solution of Aloin may be used.

Barbaloin is aperient in doses of 2 grains, and causes less griping than crude aloes.—M.T.G. ii./76,177.

AMMONII CHLORIDUM.

Chloride of Ammonium (*Off.*).

Dose.—5 to 20 grains.

The pharmacopœia describes both the commercial salt, in tough translucent fibrous masses, and the purer salt, prepared by dissolving the above in water, filtering, and evaporating until snow-white granular crystals are obtained. Either may be used. Liquid extract of liquorice disguises its nauseous taste.

Trochisci Ammonii Chloridi, T.H.

Contains 2 grains of the salt in each, with black currant paste as a basis.

Dose.—One every 3 hours; useful in congestion of the pharynx and larynx, loss of voice arising from cold and bronchial cough.

AMMONII IODIDUM.

Iodide of Ammonium, U.S.

Dose.—3 to 10 or 20 grains.

A white granular salt, in minute crystalline cubes, very deliquescent and soon becoming yellow or yellowish-brown on exposure to air; odourless when white, with a sharp saline taste and a neutral reaction. Soluble 1 in 1 of water, 1 in 9 of rectified spirit. Should be kept from light and air, else free iodine is quickly liberated. It causes less depression than iodide of potassium, and is sometimes preferred to the latter for syphilis and rheumatism.

AMMONII NITRAS.

Nitrate of Ammonium (*Off.*).

The fused salt is official for the production of nitrous oxide gas; on heating to 350° F. it is resolved into this gas and the vapour of water.

AMYL NITRIS.

Nitrite of Amyl (*Off.*).

Dose.—By inhalation, the vapour of 2 to 5 minims. By the mouth ½ to 1 minim.

A yellowish ethereal liquid with a peculiar not disagreeable odour; produced by the action of nitric or nitrous acid on pure amylic alcohol.—Sp. Gr. 0·877; about 80 per cent. of it has a boiling point below 248° F.,—it is difficult to obtain uniform; soluble in spirit, insoluble in water. It deteriorates by exposure to the air and becomes comparatively inert. Tested by means of Allen's Nitrometer, a 5 per cent. solution in spirit should yield seven times its volume of nitric oxide gas.

In 30 to 40 seconds after inhaling or swallowing a dose it flushes the face, and increases the heat and perspiration of the head and neck.

It has been successful in relieving angina pectoris, sea-sickness, ague, spasmodic asthma, migraine, neuralgic dysmenorrhœa, post-partum hæmorrhage, as an antidote to chloroform, to ward off epileptic attacks, and for the spasm of false croup and whooping-cough.

Preparations.

Capsules of Nitrite of Amyl.

Encased in cotton wool and silk, containing 1, 2, 3, or 5 minims.

In use the glass capsule is broken, the liquid soaks the cotton wool and silk cover, and can be inhaled most conveniently. For practical purposes the 3-minim size meets all wants.—L. ii./78,89; B.M.J. i./78,452.

In chloroform syncope, Nitrite of Amyl affords the quickest means of restoring the heart's action; the capsules are the most convenient form of using it.—B.M.J. ii./84,1063; Brit. Dent. Jour. 1884,745; B.M.J. ii./85, 538-9.

Mistura Amyl Nitritis.

Nitrite of Amyl	16 minims
Rectified Spirit	2 drachms.
Mix and add to Powdered Tragacanth (contained in a dry 4 ounce phial)	6 grains.
Then add gradually	
Distilled Water ... to	4 ounces.
Shake well.	

Dose.—1 or 2 drachms; is useful against sea-sickness.

Glycerine Mixture — Nitrite of Amyl, 36 minims; Alcohol (0·83), 6 drachms; Glycerine to 1½ ounces. *Dose.*—One teaspoonful in warm water, taken slowly.—Asclepiad, 1884,166.

For the treatment of angina pectoris 5 drops inhaled; the physiological action occurs in 30 to 60 seconds.—L. ii./67,97; L. ii./75,445; M.T.G. ii./70,272,321; M.T.G. ii./76,17.

In ague, on the onset of the cold stage, 5 minims inhaled cuts short the attack and checks the recurrence of the paroxysms.—L. i./78,37,185,445; L. ii./78,693; L. i./85,911.

As an antidote to chloroform 3 minims inhaled.—L. i./75,644; B.M.J. i./79,969; Br. ii./79,xxi.

Very useful in sea-sickness, 3 drops (from a glass capsule) inhaled and repeated every 2 or 3 hours if necessary. — L. i./79,650,687,759; L. ii./79,212,226, 265,301,303.

In post-partum hæmorrhage, 5 minims inhaled restored patient from collapse.—B.M.J. ii./79,691.

To restore animation a dose should be given in doubtful cases of death, either drowning, hanging, fainting, or fear of being buried alive.—B.M.J. i./79,863.

In tetanus inhale a dose in every spasmodic seizure to gain time.—M.T.G. i./70,472; L. i./74,871.

Relieves infantile convulsions ¼ to ⅓ minim in alcoholic solution given on sugar.—L. i./82,667.

Is a powerful agent to relax uterine spasms and hour-glass contraction, whether natural or caused by ergot.—B.M.J. i./82,377.

Ten per cent. solution in spirit may be given hypodermically for colic and acute lumbago.—B.M.J. i./82,817.

Its use in anæmia and imbecility.—Pr. xxvi.290.

Recommended as a domestic remedy for the various aches and pains of every-day life, externally for stomach-ache, colic, toothache, and neuralgia, and inhaled in hemicrania, chlorotic dysmenorrhœa, dizziness, faintness, threatened paralysis of the heart and asphyxia from drowning or hanging.—Pr. xxviii.139.

In uræmic asthma, Nitrite of Amyl capsules found useful.—B.M.J. i./83,811,956,1064,1115.

In puerperal eclampsia, excretion of uric acid largely increased under its use.—Pr. xxxiv.50.

ANACARDIUM.

Anacardium Occidentale; Cashew Nut.

The pericarp of this reniform-shaped nut contains a quantity of acrid, caustic and vesicating, oily liquid, which produces a dark-coloured stain and an eczematous inflammation of the skin. This liquid has been employed as a specific for leprosy, and as an application for ringworm, corns, and obstinate ulcers, yet three or four drops may be swallowed without marked effect. It is given internally as a vermifuge. It consists of about 90 per cent. of Anacardic acid and 10 per cent. of Cardol. To the latter the vesicating properties are probably due. The kernels of the nuts are edible.—P.J. 1845,268; P.J. 1882,708.

Preparation.

Tinctura Anacardii.—Tincture of Cashew Nut. 1 in 10 of rectified spirit.

Dose.—2 to 10 minims.

The Marking-Nut obtained from *Anacardium officinarum* contains a similar fluid in the pericarp, and possesses similar properties.

ANTHEMIDIS FLORES.

Chamomile Flowers (*Off.*).

In addition to the official Extract, Infusion and Oil, there is prepared from the flowers of *Anthemis nobilis*:—

Tinctura Anthemidis.

Chamomile Flowers, single and fresh	1 pound.
Rectified Spirit	24 ounces.

Macerate a week, press out the liquid, and add to the mass

Distilled Water	8 ounces.

Digest 24 hours; press again; and add the liquid pressed out to the first liquid obtained; set aside a week and filter.

Dose.—3 to 10 minims, or more.

Chamomile infusion or tincture in small doses is useful in summer diarrhœa of children, often occurring during teething, and in which there are green, many-coloured and slimy stools; it quiets their peevishness.—R.

ANTHOXANTHUM.

Anthoxanthum odoratum; Sweet Vernal Grass.

The flowers of this owe their odour on drying to Coumarin. Their pollen is said to be principally the cause of hay-fever, and accordingly, by those who believe in *similars*, a tincture of the plant has been used, internally and locally as a lotion, for this troublesome disease.

Preparation.

Tinctura Anthoxanthi.

One of fresh-flowering herb in 10 of spirit 40 O.P., making allowance for the moisture the plant contains.

Dose.—2 to 6 minims.

ANTIMONII CHLORIDUM.

Chloride of Antimony.

Syn.—Trichloride of Antimony.

When pure is in colourless crystals, or translucent crystalline masses, known as butter of antimony. It is very corrosive; on addition to water, it decomposes into free hydrochloric acid and basic oxychloride of antimony, powder of Algaroth.

Liquor Antimonii Chloridi (*Off.*).

A heavy caustic liquid of a yellowish red colour; Sp. Gr. 1·47. It is coloured by impurity, perchloride of iron often added intentionally. It can be obtained colourless. Chloride of antimony is a useful caustic and desiccating escharotic, does not cause much pain.

Antipyrin.—See p. 117.

APIOL.

Dose.—3 to 6 minims, in perles.

A liquid preparation obtained from, and containing the active properties of the fruit of *Apium Petroselinum*, common parsley. It is a green oily liquid, with a peculiar odour and a pungent taste like parsley, is not miscible with water, but dissolves readily in alcohol and ether. A stearoptene in light, colourless, acicular crystals, only slightly soluble in water, is also known by the name of **Apiol.** It has been employed as an antiperiodic for ague, and also for amenorrhœa and dysmenorrhœa. As its odour is strong and persistent, it is best administered in the form of

Perles of Apiol.

Dose.—1 or 2, contain 3 minims in each.

Had decided efficacy in primary amenorrhœa or deficiency of secretion, as well as in accidental suppression and in dysmenorrhœa, a perle given night and morning for 4 or 5 days during the epoch.—M.T.G. i./61,97.

Amenorrhœa, successful in several cases.—L. i./85,59.

APOCYNUM CANNABINUM.

American Indian Hemp.

Syn.—Apocynum, Canadian Hemp, **U.S.**

Dose of root in powder.—1 to 20 grains.

A resinous body, Apocynin, and a glucoside have been isolated from this root.

Tinctura Apocyni Cannabini.

1 in 10 of proof spirit.

Dose.—5 minims to a drachm.

American Indian Hemp is a powerful emetic and diaphoretic in large doses; it also acts as a cathartic, anthelmintic, and diuretic, useful in dropsy and Bright's disease.

Considered one of the best diuretic and hydragogue cathartics, a small quantity produces diuresis, emesis, or catharsis; it has an agreeable aromatic taste and also possesses tonic properties.—Pr. xxviii.62.

APOMORPHINÆ HYDROCHLORAS.

Apomorphine Hydrochlorate (*Off.*).

Dose.—$\frac{1}{32}$ to $\frac{1}{16}$ as an expectorant; $\frac{1}{12}$ to $\frac{1}{4}$ grain as an emetic by mouth, $\frac{1}{25}$ to $\frac{1}{6}$ grain hypodermically.

A derivative of morphine or codeine obtained by heating them with an excess of hydrochloric acid and without access of air. Apomorphine is morphine deprived of a molecule of water. In commerce the hydrochlorate occurs in minute pale greyish, white, acicular crystals, soluble 1 in 35 of water, but the solution turns emerald-green in colour, but loses little of its medicinal powers. Insoluble in ether and chloroform.

It gives with perchloride of iron a dark purple amethyst coloration, with nitric acid a brucine-red, and with bichromate of potash and sulphuric acid a strychnine-red.

It acts as a non-irritant emetic and powerful anti-stimulant. Small doses are expectorant.

Injectio Apomorphinæ Hypodermica.

Hydrochlorate of Apomorphine	2 grains.
Camphor Water	100 minims.

Dissolve and filter. *Dose.*—2 to 8 minims.

Two minims of diluted hydrochloric acid added to the above keeps it stable and colourless, yet does not make it irritating when injected; camphor water is useless.

It loses not much in strength by becoming coloured.—L. ii./85,641.

Trochisci Apomorphinæ are prepared $\frac{1}{50}$ grain in each combined with chocolate.

Never failed to produce vomiting by a single dose, one-fifth of a grain by the mouth or one-tenth of a grain hypodermically. The vomiting seems to put an end to itself; there is no subsequent nausea, nor is it followed or accompanied by any ill effects.—Trans. Clin. Soc. ii./69,166; M.T.G. ii./79,592.

Causes free vomiting, followed by sleep.—B. & F. M. Ch. Rev., 1875,503.

In a case of poisoning by carbolic acid of great use as an emetic.—Pr. xix.377.

To prevent epileptic attacks.—Pr. xx.57.

Œsophagus obstructed by plum-stone, by injecting apomorphine hypodermically the vomiting caused its removal. Useful as an emetic in poisoning or stomach overloaded.—Pr. xxi.375.

As an emetic and depressent in alcoholic intoxication.

and poisoning, with essential oil of bitter almonds and carbolic acid, cases recovered.—Stillé and Maisch.

In sunstroke one-sixteenth of a grain injected caused emesis in less than ten minutes, temperature was reduced, skin became slightly moist, pupils dilated, whilst sensation and movement returned within half an hour.—Pr. xxiv.456.

Summary of physiological action.—Pr. xxiv.367.

Hysterical coma, one-tenth of a grain cured.—B.M.J. i./80,477.

Useful as an expectorant in bronchitis and catarrhal pneumonia of children.—Pr. xxvii.285.

Two cases of poisoning treated by hypodermic injections of apomorphine, one alcoholic, recovered, the other by oxalic acid, was fatal.—L. i./83 1073.

As an expectorant $\frac{1}{20}$ grain every 2 hours is useful, or, given with the same quantity of morphine every 2 or 4 hours, it lessens cough and increases fluidity of sputa.—M.R. 1882,483,497.

Is a safe, certain, and quick emetic.—B.M.J. i./83,907.

In carbolic acid poisoning $\frac{1}{8}$ grain hypod. injected emptied stomach, recovery followed.—L. ii./83,280.

In dose of 2 to 6 milligrammes ($\frac{1}{16}$ to $\frac{1}{5}$ grain), it relieves the spasm of hiccup. epilepsy, and chorea, without causing nausea.—L. ii./84,1166.

On the eye, its solution acts like cocaine as a local anæsthetic and mydriatic, but its action is always followed by nausea.—Ther. Gaz. Aug. 1885,524; P.J. 1885,287.

ARGENTI NITRAS.

Nitrate of Silver (*Off.*).

Syn.—LUNAR CAUSTIC.

Dose.—$\frac{1}{6}$ to $\frac{1}{3}$ grain or more in a pill, best with kaolin ointment as an excipient—*not* with bread crumb,—this contains common salt, which decomposes it.

Mitigated Nitrate of Silver is prepared of various strengths by fusing together nitrate of silver 1 to 1, 1 to 2, or 1 to 3 of nitrate of potassium, for the use of oculists and surgeons.

The fused mixture of 1 part with 2 of nitrate of potassium is now official as **Mitigated Caustic,** or **Argenti et Potassii Nitras** (*Off.*).

Antidote to nitrate of silver—common salt given in some demulcent drink. Salt is also used to arrest its action locally as a caustic.

Toughened Caustic (*Off.*).

Has 5 per cent. of nitrate of potassium added to it before fusing and moulding it into caustic points.

Injectio Argenti Hypodermica.

Chloride of Silver,* freshly prepared	0·5 gramme.
Hyposulphite of Sodium ...	3 grammes.
Distilled water to... ...	100 c.c.

Dose.—2 to 10 minims. Should be freshly prepared.

ARSENIUM.

Metallic Arsenic.

Acidum Arseniosum, Arsenious Acid.

Syn.— ARSENIC; WHITE ARSENIC; ARSENIOUS ANHYDRIDE.

Arsenious anhydride, obtained by roasting arsenical ores, and purified by sublimation. This is the most generally used preparation of arsenic; much used for skin diseases, given as

Liquor Arsenicalis, Fowler's Solution.

Syn.—LIQUOR POTASSÆ ARSENITIS (*Off.*).

Dose.—2 to 8 minims. Is about one-eleventh stronger than before; contains 1 per cent. of arsenious acid.

Arsenious Acid, in powder...	87 grains.
Carbonate of Potassium ...	87 grains.

Add half a pint of distilled water to these in a flask, and heat till dissolved; cool and add

Compound Tincture of Lavender	5 drachms.
Distilled Water *q.s.* to ...	1 pint.

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* This quantity of chloride is best obtained by the double decomposition of nitrate of silver 0·55 gramme in aqueous solution, and pure chloride of sodium 0·8 gramme, filter and wash the precipitate,—this readily dissolves in the solution of the hyposulphite above.

Liquor Arsenici Hydrochloricus (*Off.*).

Dose.—2 to 8 minims. Is about one-eleventh part stronger than before; contains 1 per cent. of arsenious acid. Is compatible with alkaline mixtures.

Arsenious Acid, in powder...	87 grains.
Hydrochloric Acid	2 drachms.

Boil these with 4 ounces of distilled water till dissolved, and dilute with

Distilled Water *q.s.* to ...	1 pint.

De Valangin's Mineral Solvent was one-third the strength of the above.

Liquor Arsenici Bromatus, Solution of Bromate of Arsenic.

Syn.—CLEMENS' SOLUTION OF ARSENITE OF BROMINE.

Dose.—1 to 3, increased to 5, drops, once or twice a day.

Carbonate of Potassium ...	60 grains.
Arsenious Acid, in powder...	60 grains.
Distilled Water	10 ounces.

Boil until dissolved. When cold, add more

Distilled Water, *q.s.* to ...	12 ounces, and
Bromine	2 fluid drachms.

Set aside until it decolourises. Useful in epilepsy and diabetes with careful diet.—B.M.J. i./85,701.

In addition to these solutions, arsenious acid is administered in pilules of various strengths. It should be well and carefully triturated with sugar of milk for some length of time before any liquid excipient is added. Those containing $\frac{1}{20}$, $\frac{1}{30}$, $\frac{1}{60}$, and $\frac{1}{120}$ grain are generally kept made. To increase its tonic effect it is often combined with iron, as in

Pilula Ferri Arsenicalis.

Arsenious Acid, in fine powder	$\frac{1}{60}$ grain	in one pill.
Dried Sulphate of Iron ...	3 grains	
Syrup	$\frac{1}{2}$ minim	

Arsenii Iodidum, Iodide of Arsenium, Arsenious Iodide (*Off.*).

Dose.—$\frac{1}{30}$ grain, in a pill.

The two metals by direct combination form small orange-coloured crystals, readily and almost entirely soluble in water and in spirit. It is official to form

Liquor Arsenii et Hydrargyri Iodidi.

Syn.—DONOVAN'S SOLUTION.

Dose.—10 to 30 minims; is about one-fifteenth stronger than the original formula.

Iodide of Arsenium	...	45 grains.
Red Iodide of Mercury	...	45 grains.

Triturate these in $1\frac{1}{2}$ ounces of distilled water till nearly all dissolved. Filter, and wash the filter with

Distilled water *q.s.* to produce 10 ounces.

Given for syphilitic skin diseases.

Ferri Arsenias (*Off.*).

Dose.—$\frac{1}{16}$ to $\frac{1}{2}$ grain in a pill.

Quininæ Arsenias. See p. 297.

Sodii Arsenias (*Off.*).

Dose.—$\frac{1}{16}$ to $\frac{1}{8}$ grain.

As this salt crystallizes with either 7 or 12 molecules of water of crystallization, and is efflorescent as well, the proportion of arsenic it contains is uncertain. It is therefore directed to be made anhydrous, and dried under 300° F. for making

Liquor Sodii Arseniatis.

Dose.—5 to 10 minims.

Arseniate of Sodium, anhydrous		1 part.
Distilled Water	.. ...	99 parts.

This solution now contains 1 per cent., and is about one-eleventh part stronger than before. It is about three times the strength of Pearson's Solution of Arsenic (Codex), which is much used on the Continent; this contains 1 of crystallized arseniate in 600 of water.

ASPARAGIN.

Syn.—ALTHEIN.

Dose.—1 to 2 grains.

In hard crystals, which are transparent colourless right rhombic prisms, having a slightly acid reaction.

May be obtained from *Asparagus officinalis*, and the roots of marshmallow, liquorice, belladonna, &c. Soluble 1 in 12 of cold water, dissolves in acid and alkaline solutions. Insoluble in absolute alcohol and ether.

For cardiac dropsy and chronic gout one grain is given three times a day as a diuretic in combination with bromide of potassium.—P.J. 1879,243.

ATROPINA (*Off.*).

Atropine.

Dose.—$\frac{1}{120}$ to $\frac{1}{60}$ grain increased to $\frac{1}{16}$, or in acute mania to $\frac{1}{8}$ grain or more.

An alkaloid obtained from *Atropa Belladonna.* It is generally in hard white acicular prismatic crystals or crystalline masses, strongly alkaline, soluble 1 in 500 of water, 1 in 8 of rectified spirit, 1 in 36 of ether, 1 in 3 of chloroform, 1 in 40 of olive oil, very soluble in glycerine and oleic acid. Being so insoluble in water, it is not suitable for internal use,—generally given as a sulphate.

In commerce a kind of atropine is sometimes met with in light acicular crystals not quite so white as, but resembling, sulphate of quinine in appearance; although obtained from belladonna, this consists according to Ladenburg principally of pure hyoscyamine. His researches prove that the three mydriatic pure alkaloids, Atropine Hyoscyamine, and Hyoscine, are contained in the plants as follows:—

Atropine	occurs	in	Atropa Belladonna.
”	”	,,	Datura Stramonium.
Hyoscyamine		,,	Atropa Belladonna.
”	”	,,	Datura Stramonium.
”	”	,,	Hyoscyamus niger.
”	”	,,	Duboisia myoporoides.
Hyoscine	,,	,,	Hyoscyamus niger.

"Heavy daturine" is identical with atropine; "light daturine" and "light atropine" are identical with hyoscyamine. Duboisine is nearly pure hyoscyamine. Pure atropine and pure hyoscyamine as well as hyoscine are isomeric alkaloids, but possess different chemical and physical characters. By the action of baryta water both

Atropine and Hyoscyamine split up into Tropic Acid and Tropine.

Hyoscine splits up into Tropic Acid and Pseudotropine.

Tropine and tropic acid may be recombined under certain conditions to form Atropine, or tropine may be combined with other acids such as salicylic or amygdalic acid to form salts. These salts when treated with diluted hydrochloric acid form a class of artificial alkaloids, to which the generic name of *tropeines* is given. One of these so produced from the amygdalate of tropine is homatropine or oxytoluyltropeine. This body will, like Atropine, form salts with acids.—Liebig's Annalen, vol. ccvi.307.

Salts of Homatropine.—See p. 91.

The writer found that commercial Atropine, Daturine, and Hyoscyamine possessed different neutralising powers in regard to acids; of the three Atropine is most alkaline, Hyoscyamine the least.—P.J. 1876,471.

Atropine possesses the properties of belladonna in a marked degree. It has been principally used for ophthalmic purposes as the sulphate of the alkaloid to dilate the pupil and to paralyze the accommodation. Given internally or hypodermically, it is antagonistic to opium and morphia, Calabar bean and eserin, jaborandi, and pilocarpine, aconite and aconitine, muscarine, bromal, and hydrocyanic acid. Physiologically, whilst it acts as a "stimulant" to a large part of the central nervous system, to many of the nerves it acts as a paralyzer.

Preparations of Atropine.

Atropinæ Sulphas (*Off.*).

Dose.—$\frac{1}{120}$ to $\frac{1}{40}$ grain increased to $\frac{1}{16}$, or in cases of acute mania $\frac{1}{8}$ grain.

In masses of opaque white minute crystals, or—prepared according to the pharmacopœia—a colourless powder, soluble 1 in 4 of water. The crystallized preparation is much to be preferred.

Salicylate, as well as **Valerianate** of **Atropine**, is sometimes used.

The solution of the salicylate is said to have special advantages in not undergoing change by keeping. Soluble 1 in 20 of water.—Br. i./81,lxii.

Lamellæ Atropinæ, Discs of Atropine (*Off.*).

Contain $\frac{1}{5000}$ grain of the sulphate in each, for dilating the pupil; others containing $\frac{1}{250}$ grain paralyse the accommodation.

Injectio Atropinæ Hypodermica.

Sulphate of atropine, 4 grains to the ounce of distilled water.

Dose.—1 to 4 minims, or more.

Injectio Morphinæ et Atropinæ Hypodermica.

—See Morphina, p. 238.

Linimentum Atropinæ.

Atropine	4 grains (more or less, if ordered).
Oleic Acid	1 drachm.
Castor Oil	1 drachm.
Oil of Lavender	5 minims.
Rectified Spirit to ...	1 ounce.

In lumbago and other rheumatic affections is very serviceable used with gentle friction; it is readily absorbed.

Liquor Atropinæ Sulphatis (*Off.*).

Sulphate of atropine 4 grains, in distilled water 1 ounce.

Dose.—1 to 4 minims, or more.

Is much used for ophthalmic purposes. The sulphate should not be acid, else the solution will be irritating to the eye. It is better to use the crystallized salt, a solution of which is much more stable than that of the B.P. salt. In many cases in which it is used for the eye this solution is much too strong, as it is apt to produce glaucoma.—B.M.J. ii./82,93,178,193.

The ordinary Guttæ Atropinæ Sulphatis of the Royal Ophthalmic Hospital Pharmacopœia have one grain of salt to the ounce.

Oleatum Atropinæ.

Atropine	5 grains.
Oleic Acid	200 minims.

Heat in a water bath till dissolved. Perfume with otto of rose, or lavender, if preferred.

Useful to paint on painful parts.

Pessaries of Atropine are prepared with oil of theobroma, containing generally about $\frac{1}{20}$ grain of the alkaloid in each.

Pilulæ Atropinæ.

Atropine...	$\frac{1}{80}$
Sugar of Milk	$\frac{3}{4}$ grain.

Triturate, add

Glycerine of tragacanth... ...	*q.s.*

And make one pill. Taken at bedtime, to check night-sweating. Is apt to cause dryness of the throat.

Unguentum Atropinæ (*Off.*).

Atropine 8 grains, dissolved in $\frac{1}{2}$ drachm of rectified spirit, and mixed with an ounce of lard.

Unguentum Atropinæ cum Vaselino.

Atropine (pure alkaloid) ...	8 grains.
Vaseline	8 drachms.

Heat carefully till dissolved. N.B.—Sulphate of Atropine is not soluble in vaseline.

This forms a definite, convenient, and economical mode of applying atropine to the eye. A little may be placed within the lower lid. It produces no irritation. For some purposes it will bear dilution.—Br. ii./82,xci.

As a mydriatic the uses of atropine are well known. —B.M.J. ii./79,364.

Atropine and belladonna either given internally, hypodermically, or used externally, diminish perspiration, and will check this when excessive, as in the night sweats of phthisis and other wasting diseases; should be used locally for profuse sweating of the hands, feet, or other parts; also for leucorrhœa and uterine discharges. They likewise check the secretion of milk and saliva, and antagonise such drugs as jaborandi, opium. Calabar bean, muscarin, aconite, bromal, and prussic acid.—R.

In night-sweating, $\frac{1}{200}$ to $\frac{1}{80}$ grain may be increased to $\frac{1}{25}$ grain, taken at bedtime. Is apt to cause dryness of the throat, and is not so useful for this purpose as picrotoxin or pilocarpine.—Pr. ix.91,224; Pr. xxiii.93.

Causes sleep in acute mania in dose of $\frac{1}{4}$ to 1 grain of sulphate.—Pr. xviii.166; R.

Physiological experiments on antagonism to morphia.—Pr. xviii.356.

Antagonism to pilocarpine.—L. ii./79,479.

One grain of sulphate of atropine subcutaneously injected cured a case of poisoning by laudanum (equal to 12 grains of opium).—L. i./78,354; B.M.J. i./78,267.

A case of poisoning by $2\frac{1}{2}$ grains of sulphate of atropine was entirely cured by 16 centigrammes of hydrochlorate of pilocarpine given in centigramme doses every 5 or 10 minutes.—B.M.J. i./80,366; P.J. 1880,771.

Use of hypodermic injection of atropine previous to the administration of chloroform as an antidote to the cardio-inhibitory effects of chloroform.—B.M.J. ii./80,620,715, 761.

Atropine $\frac{1}{20}$ grain is antagonistic to 1 grain of morphia. In cases of poisoning small doses should be frequently injected hypodermically, and the poison eliminated by drawing off the urine with a catheter frequently.—B.M.J. i./81,239; Pr. xxvi.128.

Case of poisoning by 6 drachms of tincture of opium, treated with two hypodermic injections of sulphate of atropine, with recovery.—L. i./79,843.

Belladonna poisoning successfully treated by hypodermic injection of extract of physostigma.—B.M.J. i./81,918.

In iritis Atropine is indicated, in glaucoma Eserine.—Pr. xxxi.321.

Poisoning by opium (laudanum and paregoric) equal to 18 grains of dry opium, after other remedies had failed, recovered by injecting hypodermically $\frac{1}{60}$ grain doses of sulphate of atropine.—B.M.J. i./84,605.

Homatropine Salts in use are the **Hydrobromate, Hydrochlorate, and Salicylate.** They are in minute granular crystals, and are soluble 1 in 20 or less of water. They are costly.

Dose of each.—$\frac{1}{120}$ to $\frac{1}{20}$ grain.

Hypodermic injection of the Hydrobromate, 1 in 120, is used. *Dose,* 1 to 6 minims. This solution or a weaker one may be used also as eye drops.

The mydriatic and general physiological properties of the Hydrobromate of Homatropine resemble, but in a weaker degree, those of atropine, excepting that it slows the heart's beats and renders them irregular in force and rhythm.—L. i./80,795.

Action in checking night-sweating inferior to atropine and picrotoxin. Large doses cause staggering gait, like atropine.—Pr. xxv.252.

It enlarges the pupil and paralyzes the ciliary muscles as quickly and thoroughly as an equally strong solution of atropine; but the effects of Homatropine disappear entirely in twelve to twenty-four hours, while the effect of atropine continues for many days, and while it lasts the patient is disabled from reading and writing.—B.M.J. i./82,523.

AURI ET SODII CHLORIDUM.

Chloride of Gold and Sodium.

(*Codex and U.S.*)

Dose.—$\frac{1}{30}$ to $\frac{1}{12}$ grain in a pill.

An orange-yellow crystalline, deliquescent powder, soluble 1 in 2 of water; only partially soluble in alcohol. The preparation of the codex contains a molecule of each of chloride of gold and chloride of sodium, combined as a double salt. The U.S. preparation is a mixture of equal parts by weight of the two salts; it therefore contains about one-third less gold. It is sometimes used as a caustic, and given internally for syphilis.

BALSAMUM GURJUNÆ.

Gurjun Balsam; Wood Oil.

Dose.—½ to 2 drachms.

A viscid balsam obtained from the trunk of the growing tree *Dipterocarpus turbinatus* and other species of this genus; imported from the East Indies. It is very fluorescent, has an opaque dingy, greenish grey colour seen by reflected light, yet is transparent and reddish brown in strong daylight; it has the weak aromatic odour and bitterish aromatic taste of copaiba without the acridity—has been used as an adulterant of copaiba. It is not completely soluble in either ether or alcohol; emulsified with mucilage of acacia, it is used with success like copaiba, for gonorrhœa; and, in the East, as a remedy for leprosy, an emulsion is made of equal parts of the balsam and lime-water, which is used freely as a liniment and given to the extent of 4 drachms three times daily.

BAPTISIN.

Dose.—1 to 5 grains in a pill with mucilage of acacia. The purified extract of wild indigo, *Baptisia tinctoria*, powdered; of a light brown colour.

Is a mild laxative in small doses, and a powerful emetic and cathartic in large.

It is a moderately powerful hepatic and intestinal stimulant on the dog.—Pr. xxiii.337; B.M.J.ii./78,909.

BEBERINÆ SULPHAS.

Beberine Sulphate (*Off.*).

Dose.—1 to 10 grains, in pills, with glycerine of tragacanth, or in aqueous solution.

Is probably a mixture of the sulphates of beberine, nectandrine, and other alkaloids obtained from Bebeeru bark, the bark of *Nectandra Rodiæi*, or greenheart-tree. Prepared according to the Pharmacopœia, it is in dark brown, thin, translucent scales with strong, bitter taste, soluble 1 in 80 of water, slightly in spirit. A Hydrochlorate of Beberine is also prepared, possessing similar properties and having a similar appearance. The pure salts crystallize with difficulty.

Used as a substitute for quinine in neuralgia, and as an antiperiodic. Very useful also in menorrhagia, 4-grain doses often repeated.—L. i./45,500; L. i./64,458; P.J. 1867,27.

BELLADONNA.

Deadly Nightshade (*Off.*).

The official preparations of *Atropa Belladonna* are made from the dried root, the dried leaf, and the extract from the fresh leaves and branches. The general properties of belladonna in dilating the pupil, and as a narcotic, applied externally or taken internally, are well known. Externally, its preparations are applied to relieve rheumatism, neuralgia, and as a general local sedative for pain. Internally, either alone or in combination with aloes, or sometimes with dried sulphate of iron, $\frac{1}{8}$ to $\frac{1}{4}$ grain of the extract is much used for habitual constipation. It checks, and even suppresses, the secretions of the glands, causes dryness of the throat and of the skin, checks night-sweats, secretion of milk, nocturnal incontinence of urine in children and nocturnal emissions. Large doses produce delirium, a scarlatina rash on the skin, the face becomes flushed, and muscular power is weakened.—R. As a prophylactic to scarlet fever, 10 grains of extract of belladonna, dissolved in 6 ounces of water, are given in teaspoonful doses.

All parts of the plant contain the alkaloid atropine with, in addition, hyoscyamine.

Preparations.

Atropine.—See Atropina, p. 87.

Chloroformum Belladonnæ (Squire).

Powdered belladonna root, treated by percolation with chloroform to produce from one ounce of powder one fluid ounce of percolate.

Mixes with oils; 1 to 3 olive oil is useful for painful rheumatic affections.

Emplastrum Belladonnæ (*Off.*).

Alcoholic Extract of Belladonna ...	1 part.
Resin Plaster	2 parts.
Soap Plaster	2 parts.

Melt the plasters in a water-bath, add the extract, and mix well. Is reddish-brown in colour, cleaner while worn, and stronger than the old preparation.

Emplastrum Belladonnæ Extensum (*American*).

Belladonna plaster in rubber combination spread on calico in porous sheets 7 in. by 5 in. and in yard rolls 7 in. wide, porous and non-porous.

Is efficacious, pliable, keeps well, and does not "run."

Similar plasters are also prepared with belladonna and aconite combined.

Extractum Belladonnæ (*Off.*).

Dose.—$\frac{1}{6}$ to $\frac{1}{2}$ grain, may be increased to 2 grains or more.

A green extract prepared from the expressed juice of leaves and young branches.

Extractum Belladonnæ Alcoholicum.

Dose.—$\frac{1}{16}$ to $\frac{1}{4}$ grain, or more.

An alcoholic extract prepared by exhausting 1 of root in No. 20 powder with rectified spirit 2½, displacing with water, and evaporating the percolate to an extract; it is about five times as strong as the green extract of the leaves and branches, and is useful for making belladonna plaster, suppositories, and pessaries.

Glycerinum Belladonnæ.

Extract of Belladonna ...	1 ounce
Boiling distilled water ...	1 drachm or *q.s.*

Rub together in a warm mortar to produce a smooth paste, and add

Glycerine	1 ounce.

To check pain and inflammation, is often painted on boils, abscesses, and carbuncles, and, covered with a poultice, also applied on lint to the breasts to disperse the milk. The Royal Ophthalmic Hospital Pharmacopœia orders 3½ ounces of glycerine to the ounce of extract.

Linimentum Belladonnæ (*Off.*).

Prepared by percolating 20 ounces of powdered belladonna root with rectified spirit, dissolving in the percolate 1 ounce of camphor, and obtaining 30 ounces of liniment. A useful topical sedative for neuralgia and rheumatic pains.

Linimentum Belladonnæ Compositum (Squire).

Belladonna Liniment ...	7 ounces.
Chloroform of Belladonna ...	1 ounce.

Sprinkled on impermeable piline or the textile side of American oiled cloth, and applied constantly, relieves lumbago.

Succus Belladonnæ (*Off.*).

Dose.—2 to 15 minims,

Expressed juice of leaves and branches with one-third of rectified spirit added.

Is about three times the strength of the tincture.

Hay fever relieved by one minim every hour.—B.M.J., i./83,69.

Suppositorium Belladonnæ.

Extract of Belladonna Root...	½ grain.
Oil of Theobroma	15 grains.

Often ordered to be made with the green extract, but it is almost impossible to get sufficient of this to combine with the basis to be of service. Pessaries may also be made with the extract of the root containing ½ to 1 grain in each.

Tinctura Belladonnæ (*Off.*).

Dose.—5 to 20 minims; contains 1 of leaves in 20 of proof spirit.

Full doses are very useful for incontinence of urine.—B.M.J. i./85,279.

Unguentum Belladonnæ (*Off.*).

Alcoholic extract 1 part to 8 parts of benzoated lard.

BISMUTHUM.

Bismuth (*Off.*).

Bismuthum Purificatum (*Off.*). See p. 10.

Bismuthi Carbonas, Carbonate of Bismuth (*Off.*).

Syn.—OXYCARBONATE OF BISMUTH.

Dose.—5 to 20 grains.

Bismuthi Citras, Citrate of Bismuth (*Off.*).

Dose.—2 to 5 grains.

Is prepared by adding a solution of citrate of sodium to a solution of true nitrate of bismuth as long as any precipitate is formed. The mixture is boiled and filtered, and the precipitated citrate of bismuth washed and dried. 800 grains of it is dissolved in weak solution of ammonia *q.s.* to form

Liquor Bismuthi et Ammonii Citratis (*Off.*).

Dose.—½ to 1 drachm.

Contains 5 grains of citrate = 3 grains of oxide of bismuth in 1 drachm. It is freed from the nitric acid contained in the old preparation, but it is apt to become fungoid. Evaporated to a syrupy consistence and spread on glass and dried, it produced soluble small shining translucent scales of

Bismuthi et Ammonii Citras (*Off.*).

Dose.—2 to 5 grains.

Bismuthi Oxydum (*Off.*).

Dose.—5 to 15 grains.

Is prepared by boiling subnitrate of bismuth in solution of soda, washing and drying the deposited dull lemon-yellow-coloured oxide of bismuth.

Bismuthi Oxychloridum, Oxychloride of Bismuth.

Dose.—5 to 20 grains.

Is prepared by adding an acid solution of trichloride of bismuth to water, or by mixing a solution of true nitrate of bismuth with a solution of common salt. The basic oxychloride precipitated is well washed with water and dried. It forms the pigment known as "pearl white," and is much used as a cosmetic, to make "blanc de perles," &c. It gives a white pearly gloss to the skin. If carefully prepared, it is an impalpable, neutral, unirritating powder, and for many purposes should be preferred to the B.P. subnitrate (which is acid and crystalline), carbonate, or oxide. Even for internal administration, if most of the action of bismuth preparations be due to the mechanical coating they give to the irritated parts of the stomach or bowels, the oxychloride should be preferred, as, besides being an impalpable powder, it is a very insoluble one. It coats and adheres to the mucous membrane, and is very useful in irritated conditions of the mouth, throat, vagina, and rectum. From a quarter to half a grain may be used as an insufflation to the larynx.

Pessaries or **suppositories** may be made with oil of theobroma, containing 10 grains of the oxychloride in each.

Unguentum Bismuthi Oxychloridi.

Oxychloride of Bismuth ...	30 grains.
Vaseline	1 ounce.

Mix. Is useful for anointing the speculum previous to vaginal examinations.

Bismuthum Peptonatum.

Dose.—80 grains, more or less.

A dry, brown powder, which contains 3·5 per cent. of oxide of bismuth in a soluble form.

Bismuthi Salicylas, Basic Salicylate of Bismuth.

Dose.—5 to 20 grains.

A white or pinkish-white powder, obtained by the decomposition of true nitrate of bismuth and a solution of salicylate of sodium; is insoluble in water, alcohol, and glycerine. Has been used with advantage in some forms of diarrhœa, typhoid fever, &c.—P.J. 1883,243, 568; 1885,889.

Bismuthi Subnitras (*Off.*).

Syn.—Oxynitrate of Bismuth.

Dose.—5 to 20 grains.

Is prepared purest by adding to a quantity of water the large crystals of true nitrate of bismuth, obtained by concentrating a solution of bismuth in nitric acid and setting aside to cool; many impurities remain in the mother liquor. The subnitrate, deposited as above, is washed, pressed, and dried. To obtain a fine powder, it is afterwards generally levigated. It should be remembered that this preparation from its nature is always *acid* in reaction; it is therefore incompatible with alkaline carbonates—many bottles of medicine so prescribed burst in transit.

Trochisci Bismuthi (*Off.*).

Contains 2 grains subnitrate of bismuth in each, with about 2½ grains of carbonate of magnesium and 4 of carbonate of calcium—incompatible.

Pulvis Bismuthi Compositus (Ferrier's Snuff).

Hydrochlorate of Morphia ...	2 grains.
Powdered Acacia	2 drachms.
Subnitrate of Bismuth ...	6 ,,

Mix. From a quarter to one-half the above to be used as snuff in 24 hours.—L. i./76,525.

BROMAL HYDRAS.

Hydrate of Bromal.

Dose.—2 to 5 grains—3 grains at bedtime for relieving pain or producing sleep.

In large oblique colourless prisms, which melt on the hand, and are not quite so soluble or readily soluble in water as chloral hydrate. Applied externally to the skin, it causes irritation and great infiltration of the tissue, as when dry cupping-glasses are used. It is not suitable for internal exhibition, as it causes pyrosis, vomiting, and diarrhœa.—B. & F. M. Ch. Rev. i./72,509.

It is much more active physiologically than chloral hydrate. Of the latter it required 20 grains to cause the death of a rabbit, whereas 4 or 5 of bromal hydrate are quite sufficient to kill one of the same weight.—B.M.J. ii./74,805.

In epilepsy, tried without success.—Stillé and Maisch.

BRUCINA.

Brucine.

Syn.—BRUCIA.

Dose.—$\frac{1}{12}$ grain increased up to $\frac{1}{2}$ grain.

An alkaloid obtained along with strychnine from the seed of *Strychnos Nux-vomica*, and other species of Strychnos. In small white acicular crystals, with bitter taste. Very soluble in alcohol, soluble 1 in 100 of chloroform, 1 in 850 of cold water. Its salts are more soluble in water. It, as well as morphia, gives an intense red colour with nitric acid, which strychnine, if pure, does not. Brucine is difficult to obtain perfectly free from strychnine. It is said to possess only $\frac{1}{24}$ the physiological power of strychnine.—P.J. 1877,652,666.

For epilepsy, has curative properties, given as liquor, same strength as liquor strychniæ, 10 minims twice a day, increased every third day by 5 minims, until half a grain is reached.—L. i./69,75.

Note on physiological action.—L. i./83,30.

BRYONIA.

Bryony.

Syn.—VITIS ALBA; WHITE BRYONY.

From fresh roots of *Bryonia alba* or *B. dioïca* a tincture is prepared corresponding in strength, to 1 of dried root to 10 of proof spirit. (U.S. orders 1 of dried root in 10 of rectified spirit.)

Dose.—1 to 10 minims or more.

Useful in pleurisy. Given in small doses, it relieves the pain and allays the cough. In large doses it is an active hydragogue cathartic, sometimes used for dropsy.

The fresh plant applied to the skin will cause vesication. It contains Bryonin, a bitter principle, soluble in water and alcohol, insoluble in ether.

Byne, and Extractum Bynes.

See Maltum, and Extractum Malti, p. 230.

BUTYL-CHLORAL HYDRAS.

Hydrate of Butyl-Chloral (*Off.*).

Syn. — CROTON - CHLORAL HYDRATE, wrongly so called.

Dose.—2 to 15 grains or more.

In pearly-white crystalline scales, having a pungent odour resembling that of Chloral Hydrate, and an acrid, nauseous taste. Soluble 1 in 100 of cold water; freely soluble in rectified spirit, and about 1 in 4 of glycerine.

It is, perhaps, the most efficacious remedy in facial neuralgia.—R.

A mixture of Menthol 2 parts, with Croton-Chloral Hydrate 1 part liquefies.—See Menthol, p. 233.

Mistura Butyl-Chloral, T.H.

Hydrate of Butyl-Chloral ...	4 grains.
Glycerine	15 minims.
Water	to 1 ounce.

This dose is very useful as an anodyne in neuralgic affections of the throat, frequently repeated.

Pilula Butyl-Chloral.

Hydrate of Butyl-Chloral ...	3 grains or more.
Glycerine of Tragacanth, or Mucilage of Acacia	*q.s.*

To make one pill.

Dose.—1 every 2 hours, or hourly.

Pilula Butyl-Chloral cum Gelseminâ.

Hydrochlorate of Gelsemia $\frac{1}{200}$ grain, is added to each of the above and, for facial neuralgia, given similarly.

Syrupus Butyl-Chloral.

Hydrate of Butyl-Chloral ...	16 grains.
Syrup	1 ounce.

Dissolve the hydrate in the syrup made hot.

Dose.—One drachm every hour.

References.

Relieves paroxysmal neuralgic pains in the regions supplied by the fifth nerve.—L. ii./72,558.

For toothache of pregnancy and neuralgic toothache, doses of 5 to 15 grains internally; and used also locally. —Pr. xix.382.

It produces slumber without the lowering of the pulse, which chloral itself causes. Dose, 5 to 15 grains.—Br. i./75, 336.

Cured cases of paroxysmal headache in females suffering from mental distress and facial neuralgia; useless in pain from decayed teeth.—B.M.J. i./79,667.

CAFFEINA.

Caffeine (*Off.*).

Syn.— CAFFEIA, THEINA, GUARANINA.

Dose.—$\frac{1}{2}$ to 5 grains or more—as much as 18 grains being recommended—given in solution, or in pills with glycerine of tragacanth.

A crystalline principle usually obtained from the dried leaves of *Camellia thea*, or dried (?) coffee-seeds—*Coffea Arabica;* also contained in guarana (p. 201), maté,—the leaves of *Ilex Paraguayensis*—and kola nuts—the seeds of *Sterculia acuminata*, growing in Western Africa; it is identical with Theine and Guaranine. Caffeine and Theobromine (see p. 326) can be prepared from Xanthine (the former being di- and Theobromine tri-methyl-xanthine) and indirectly from guano, as Xanthine may be obtained as a derivative of Guanine contained in guano. Caffeine is in slender needles like white silk, is soluble 1 in 100 of water, 1 in 25 of rectified spirit; is insoluble in absolute alcohol, but soluble in ether; acids render it more soluble in water, but it is a feeble base, and on concentrating the solution of the salts they are apt to split up, and the caffeine crystallizes out by itself. Caffeine has more nitrogen in its composition than any other known alkaloid. It has a bitter, not agreeable taste. It stimulates the heart and raises arterial tension. In excessive doses it causes rise of temperature, convulsions, and paralysis. It is given for hemicrania. Locally, to the eye, it dilates the pupil.

Caffeinæ Citras (*Off.*).

Dose.—½ to 5 grains or more.

Is directed to be prepared by dissolving caffeine 1 and citric acid 1 in distilled water 2, evaporating to dryness on a water bath, stirring constantly towards the end of the operation, and reducing to a fine powder.

The commercial Citrate is met with in opaque white needle-like crystals or masses of crystals; this is a doubtful salt.

Effervescent Citrate of Caffeine is prepared, containing a grain in a teaspoonful.

Caffeinæ Hydrobromas.

Dose.—½ to 5 grains or more.

In acicular crystals, shorter than the citrate.

Caffeinæ Valerianas.

Dose.—½ to 3 grains.

In irregular crystals or powder, having the odour of valerian.

Caffeine is very soluble in aqueous solutions of benzoate, cinnamate, and salicylate of sodium. These dissolve it in chemically equivalent quantities. The following salicylate of sodium solution of it forms an unirritating hypodermic injection.

Injectio Caffeinæ Hypodermica.

Caffeine...	20 grains.
Salicylate of Sodium ...	17½ grains.
Distilled Water to ...	1 drachm.

Dose.—1 to 6 minims, contains 1 grain in 3 minims. Particularly recommended for alcoholic and morphia intoxication, also for hemicrania.

Caffeinæ Sodio-Salicylas.

Dose.—1 to 4 grains hypodermically.

A white amorphous powder, containing 62·5 per cent. of caffeine, and soluble 1 in 2 of water. This salt and the corresponding cinnamate and benzoate are preferred in Berlin; they act like digitalis, but more rapidly.—Edin. Med. Jour., 1884, 390.

It is a tonic and stimulant; it has the effect of quinine with wine, with this advantage, that it is followed by no depression.—M.T.G. i./75,185.

References.

On the dog, half a grain injected hypodermically raised the temperature. Artificial respiration removes the tendency to death from an overdose.—M.R. 1876,301.

It has an opposite effect to quinine on the temperature. Large doses raise it.—M.T.G. ii. 78,604.

Antagonism between caffeine, theine, guaranine, cocaine, as well as tea and coffee, and morphia and opium.—B.M.J. ii./74,615,674,697,771.

Useful in cardiac disease, especially where dropsy is a marked symptom. Is apt to induce insomnia. Large doses are required. It is better borne than digitalis.—L. ii./82,909; i./83,909.

In epileptic vertigo, after 1 to 3-grain doses three times a day, attacks cease.—Pr. xxx.105.

Theine, caffeine, and guaranine are chemically and physiologically identical. Excessive doses produce in animals paralysis of sensibility, tetanic spasm, and convulsions.—R.

A stomachic tonic, lessens tissue change, and waste. Has been given in cases of diarrhœa, phthisis, and neuralgia.—B.

Useful in unilateral headaches in doses varying from 1½ grain to 18 grains.—Binz.

Is a diuretic, and relieves cardiac dropsy in cases where a feeble, dilated, and irregularly contracting heart is undergoing progressive mural decay. Dose, 3 to 6 grains.—P. xxii.23.

Useful as a diuretic in dropsy depending on heart disease.—B.M.J. i./80,443.

A grain and a half of the valerianate three times a day checks nervous vomiting in hysteria. It increases appetite and nerve power. Is useful for pertussis.—M.R. 75,295.

Hydrobromate of caffeine is a diuretic, used hypodermically, and the citrate gives great relief in cardiac dropsy.—M.T.G. ii./77,662.

Is tonic and restorative to the nervous system, specially the sympathetic nervous system, may be given to relieve a palpitating adynamic heart, without fear of disturbing heart or vessels. One grain doses given for hemicrania and neuralgia. An ordinary cup of tea probably contains $\frac{1}{10}$ grain of Caffeine. With the addition of oxygen and the elements of water, Caffeine can yield taurine, about 2 grains giving to one ounce of bile the nitrogen it contains in the form of taurine.—M.T.G. ii./81,33.

1 to 5 grains in a cup of coffee relieve bronchial asthma.—L. i./79,220.

Caffeine acts on the heart in large doses like digitalis, but is apt to produce insomnia and nervousness.—L. ii./82,909; Pr. xxxiii.218; Pr. xxxiv.139.

Poisoning by 60 grains of citrate caused burning in throat, giddiness, violent vomiting, purging and diuresis, tremors of extremities, pain in stomach and bowels, and great thirst. Recovery: treated with nitro-glycerine, &c.—L. i./83,680.

Calamina Præparata.—See p. 227.

CALCII CHLORIDUM.

Chloride of Calcium (*Off.*).

Dose.—10 to 20 grains in aqueous solution, or it is more palatable made into pills with syrup; these must be kept in bottles.

According to the pharmacopœia chloride of calcium, anhydrous and most convenient for use in medicine, is in-fused white agglutinated masses, dry, but very deliquescent. The porous dried chloride is better adapted for chemical purposes for absorbing water. Crystals of chloride of calcium are very deliquescent and unmanageable, as they dissolve in one-fourth their weight of water. Chloride of calcium is given in tubercular disease and glandular affections. It is not astringent. It has been recommended as a disinfectant.

Liquor Calcii Chloridi (*Off.*).

Dose.—15 to 50 minims; is 1 to 5 of distilled water.

References.

Chorea, eight cases in children, cured by doses of 7 to 15 grains daily.—M.T.G. ii./75,663.

In tubercular diseases, phthisis and all wasting diseases of children, has great power in controlling. For adults, dose 30 grains three times a day.—L. ii./77,275.

It is said to check the growth of uterine fibroids, some think it tends to cure them by aiding a process of calcareous degeneration.—L. ii./73,1.

In sarcinæ, the vomiting is checked by 30 to 60-grain doses.—M T.G. i./60,401.

In scrofula, is a valuable general tonic, slows and strengthens the pulse; best given to children in milk, after food.—Pr. xxxiv.161.

CALX SULPHURATA.

Sulphurated Lime (*Off.*).

Syn.—CALCII SULPHIDUM; SULPHIDE OF CALCIUM; CANTON'S PHOSPHORUS.

Some forms of it after being heated shine in the dark and are used to make the luminous paint.

Dose.—$\frac{1}{10}$ to 1 grain in a pill.

A mixture containing not less than 50 per cent. of true Monosulphide of Calcium. It is prepared by deoxidizing Sulphate of Lime (which is now official), by mixing it with wood charcoal and heating the mixture in a crucible until the black colour disappears. The residue when powdered has a dirty white colour and slight sulphuretted odour; it is but sparingly soluble in water, which solution quickly decomposes, evolving sulphuretted hydrogen. In thus liberating this gas, sulphide of calcium possesses properties allied to the sulphurous springs of Harrogate, Barèges, Gilsland, &c. It is found very useful administered for boils, carbuncles, acne, scrofulous sores, especially in glands of the neck, by hastening maturation and preventing formation of fresh boils, &c. For boils, &c., $\frac{1}{10}$ grain is given every hour. For suppurating glands in the neck, $\frac{1}{2}$ to 1 grain every two hours, continued for weeks, is very beneficial.—R.

Pilula Calcis Sulphuratæ, gr. $\frac{1}{10}$, gr. $\frac{1}{4}$, gr. $\frac{1}{2}$, and gr. 1.

These pills are best prepared by triturating the sulphurated lime with sugar of milk, adding glycerine of tragacanth *q.s.*, rolling into pilules and coating with sandarach solution. Keep in bottles.

Dose.—1 every hour, or every 2, 4, or 6 hours as above, according to the state of the disease, whether acute or not.

On the addition of a dilute acid to sulphurated lime mixed with water, it gradually evolves sulphuretted hydrogen, and may be made use of for producing artificial sulphurous waters. The following imitates Aix-les-Bains water. Temperature 108° F.

Aix-les-Bains Water (Artificial).

Sulphate of Sodium ...	2 grains.
Sulphate of Magnesium ...	1 grain.
Sulphate of Alumina ...	1½ grain.
Chloride of Sodium ...	½ grain.
Carbonate of Lime, precipitated	2 grains.
Sulphurated Lime	3 grains.
Diluted Hydrochloric Acid	10 minims.
Water 108° F.	32 ounces.

Used for douching, baths, &c.

References.

Cases of acne of the face cured by ¼ to ½ and 1 grain doses 3 to 6 times a day.—L. ii./78,215.

Useful in boils and skin affections, also in diphtheria and croup—the false membrane is detached and expelled. L. i./82,296.

In cancer of the breast 3 cases, after operations and 3 or 4 months' treatment by grain doses of the sulphide, recovery was rapid.—L. ii./82,332.

In strumous ophthalmia, 5 cases, doses of $\frac{1}{10}$ to ¼ grain effected cures.—Pr. xxviii.17.

In periostitis and alveolar abscesses found of great service.—Stocken's Dental Mat. Med., 2nd ed., 143.

Usual dose is too small for boils; give 1 grain three times a day, increased to 8 grains daily.—L. i./85,64.

Lotio Calcii Sulphurati, U.C.H.

Slaked Lime	4 ounces.
Sublimed Sulphur	4 ounces.
Distilled Water	35 ounces.

Boil together, evaporate, and filter, to produce 1 pint of solution. This should be diluted with an equal quantity of warm water for painting over the patient, who ought previously to have had a bath, as a remedy for itch, which it will cure in half an hour. It holds in solution pentasulphide of calcium with some oxysulphide, and resembles in composition **Vlemingkx' Solution.**

Sulphurated Lime Depilatory.

Is a thick milk of lime charged with sulphuretted hydrogen. A less unpleasant, but equally efficacious, application is

Sulphide of Barium Depilatory.

Sulphide of Barium, in fine powder	1 part
(Or less or more, up to 3 parts, if ordered).	
Starch Powder	3 parts.

Make into a cream with water. When required for use, spread it on the part and let it remain five or ten minutes, then remove with a blunt knife. N.B.—It temporarily reddens the skin.

Syrupus Sulphatum (H. P. Symonds).

Dose.—½ an ounce contains:—

Sulphate of Berberine ...	1 grain.
Sulphate of Quinine	2½ grains.
Sulphate of Iron	2½ grains.
Sulphate of Potassium ...	8 grains.
Sulphate of Sodium	8 grains.
Diluted Sulphuric Acid ...	5 minims.
Glycerine	12 minims.
Distilled Water	48 minims.
Dissolve, and add	
Syrup to	½ ounce.

Filter. Add to each pint, Chloroform 10 minims, mixed with 20 minims of Spirit.

Is useful for boils, &c. The sulphates give off some sulphuretted hydrogen, and the bases act as tonics.

CALENDULA.

Marigold.

From the fresh leaves and flowers of this plant, *Calendula officinalis*, a Tincture is prepared equal in strength to 1 of equal parts rectified spirit and water in 10 of the dried drug.

A lotion prepared from the tincture diluted, or an ointment prepared from tincture 1 part, and spermaceti or simple ointment 9 parts, is said to have a beneficial influence over wounds, especially incised wounds. It promotes cicatrization, with but little suppuration.

One minim of tincture with boracic acid 2 to 4 grains is a useful insufflation in otorrhœa.—Pr. xxx.366.

CAMPHORA.

Camphor (*Off.*).

Dose.—1 to 10 grains in a pill, or alcoholic solution dropped on sugar or in water, or as camphor water. Camphor, besides being sold in bells, is now prepared in rectangular blocks, as well as in a sublimed powder, **Flowers of Camphor.** The latter is a very convenient form for making pharmaceutical preparations.*

Camphor is soluble in water, 1 in 1,300 (more is dissolved if kept slightly warm), in rectified spirit 1 in 1¼ (more soluble in absolute alcohol), freely soluble in ether, chloroform, volatile and fixed oils. Camphor, when mixed in certain proportions with many crystalline substances, causes mutual liquefaction of the two—*e.g.*, camphor 4, phenol 12, and water 1 (see Acidum Carbolicum); camphor 1, and chloral hydrate 1 (see Chloral Hydras); camphor 2 and menthol 3 (see Menthol); camphor 1 and thymol 1 (see Thymol); camphor and butyl-chloral hydrate liquefy when heated, but solidify on cooling; so will camphor 84 and salicylic acid 65 (see Camphora Salicylata). Camphor is powdered by rubbing with a few drops of spirit. Besides the official preparations, camphor water† (camphor mixture) 1 in 1,000 to 1,300, liniment 1 to 4, compound liniment 1 to 8, spirit 1 to 9, and compound tincture 1 in 240, the following are in use:—

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* Lately, much ESSENTIAL OIL OF CAMPHOR has been imported from Japan; it is generally of a pale straw-colour but varies from water-white in all shades to deep black. Has Sp. Gr. 0·898 to 0·990. It is a bye-product obtained in the production of camphor. It consists principally of a terpene, with about 1 in 4, or a variable quantity, of the stearoptene, camphor in solution. It has a persistent odour, like that of camphor and cinnamon combined. Similar productions have at times come from Formosa and Borneo. They are used by the Chinese as rubefacients in rheumatism, and may prove useful as antiseptics.—P.J. 1885,302.

† Aqua Camphoræ is uncertain in strength. The water dissolves much more of the camphor if kept in a slightly warm place. A definite quantity of camphor, dissolved in a small but certain quantity of spirit, and this added to a measured quantity of water, would make a more uniform preparation. It is rendered more soluble in water by the presence of carbonic acid, acid carbonate and carbonate of magnesia, sugar, and myrrh, and less soluble by bromide of potassium, liquor potassæ, sulphate of magnesia, alkaline carbonates, and many other salts.

Camphor Ball.

Spermaceti, cut small	4 ounces.
White Wax ,,	12 ounces.
Oil of Almonds	5 ounces.

Melt in a water bath, and add

Flowers of camphor	4 ounces.

Dissolve, and when nearly cold pour into boxes or mould in gallipots. Useful for chapped skin.

Camphora Monobromata.—See p. 110.

Camphora Salicylata.—See p. 111.

Camphorated Chalk.

Flowers of Camphor	1
Precipitated Carbonate of Lime	7

Mix in a mortar, adding a few drops of rectified spirit, and sift for use as a dentifrice.

Elixir Camphoræ.

Dose.—$\frac{1}{2}$ to 1 drachm.

Spirit of Camphor	10 drachms.
Syrup	5 drachms.
Distilled Water	1 drachm.

Mix. Contains 4 grains of camphor in 1 drachm. It mixes and diffuses well in water.

Flowers of Camphor.—See p. 108.

Pilula Camphoræ.

The most suitable excipient to form camphor into pills is about $\frac{1}{3}$ its weight of powdered curd soap and a few drops of proof spirit, or a little lard in a warm mortar.

Pilules and lozenges of camphor are prepared by confectioners, of uncertain strength.

Spiritus Camphoræ Fortior.

Syn.—RUBINI'S SOLUTION OF CAMPHOR.

Dose for Diarrhœa.—2 to 5 drops on sugar every 5, 10, or 15 minutes, according to the severity of the symptoms.

Flowers of Camphor	1 ounce.
Absolute Alcohol (by weight)	1 ounce.

Dissolve. Produces slightly over 2 fluid ounces, and contains nearly 1 grain in 2 minims.

CAMPHORA MONOBROMATA.

Monobromated Camphor.

Syn.—MONOBROMIDE OF CAMPHOR.

Dose.—2 to 10 grains in pills, with $\frac{1}{3}$ of its weight of curd soap and proof spirit *q.s.*

A substitution compound in which one atom of hydrogen in camphor is replaced by bromine. In colourless prisms, soluble in ether, alcohol, and fixed oils, insoluble in water. It has a slight odour of camphor and a turpentine-like taste. It is used as a hypnotic; large doses produce clonic convulsions and muscular trembling.

Perles are prepared containing about 2 grains in each. The following is also recommended, but it is strongly alcoholic and very nauseous:—

Elixir Camphoræ Monobromatæ.

Monobromated Camphor ...	20 grains.
Spirit of Cinnamon (1 in 50)	15 drachms.
Dissolve and add	
Red Elixir	20 drachms.
Syrup *q.s.* to	5 ounces.

Dose.—$\frac{1}{2}$ an ounce (contains 2 grains).

References.

Experiments on animals. It lowers circulation, respiration, and temperature.—Pr. xiii.113.

Not suitable for asylum practice, on account of its comparative insolubility in any but irritating media.—Pr. xiii.324.

Physiological experiments on rabbits and therapeutic uses. Has risks of gastric irritation given by mouth, and cutaneous inflammation used hypodermically.—Pr. xiv.262.

Results of its use in Paris favourable as a hypnotic in nervous diseases.—L. ii.75,215.

In delirium tremens 7-grain doses often repeated is recommended, also in insomnia, chorea, and hysteria.—B.F.M.Ch.R. lviii.459.

In whooping-cough of children, 5-grain doses serviceable, and useful in asthma.—B.

Used in epilepsy, without good results.—L. i./80,553; B.M.J. i./80,548.

Lowers temperature and produces sleep, of use in delirium tremens, convulsions of teething, and hysterical wakefulness.—L. ii./76,698.

CAMPHORA SALICYLATA.

Salicylated Camphor.

Syn.—SALICYLATE OF CAMPHOR.

Dose.—1 to 5 grains, in a pill, with a sixth of its weight of suet or lard.

Prepared by heating together carefully 84 parts of camphor and 65 parts of salicylic acid, until a liquid homogeneous solution is formed, which becomes a crystalline mass on cooling. This again becomes unctuous when pounded, and liquefies when rubbed on the skin. It may be obtained in definite crystals from a benzol solution. It is slightly soluble in water and glycerine, and about 1 in 20 of fats and oils, and is decomposed by hot alkaline solutions. By boiling with water it hydrates into an oily liquid. Applied as an ointment, it was found useful in lupus and rodent ulcers.—P.J. 1881,438, from Annali di Chimica, lxxiii.193.

May prove serviceable in some forms of diarrhœa and to form antiseptic dressings.

Salicylated Camphor Wool.

Cotton wool impregnated with 8 per cent. of salicylated camphor, for antiseptic wound dressing.

CANNABIS INDICA.

Indian Hemp (*Off.*).

Extractum Cannabis Indicæ (*Off.*).

Dose.—¼ to 1 grain.

Is an alcoholic extract, of which 1 dissolved in 20 of rectified spirit forms

Tinctura Cannabis Indicæ (*Off.*).

Dose.—5 to 20 minims, suspended in some mucilaginous fluid.

Cannabin Tannas, Cannabin Tannate.

Dose.—2 to 10 grains, increased to 20, 4 grains being an average dose, taken an hour before bedtime, in a pill with glycerine of tragacanth or in solution of sal volatile and water.

A yellowish brown powder, prepared from *Cannabis Indica*. Tastes like tannin, has a not unpleasant smell, is insoluble in water and ether, slightly soluble in alcohol, and dissolves easily in water made slightly alkaline. It is stated to be free from the two volatile oils contained in *Cannabis Indica*, which are rapidly-acting irritating poisons. It does not produce intoxication, and is said to be a useful hypnotic, that, unlike opium and morphia, it rarely or never deranges the digestive and secretory organs, bowels, &c., and is specially valuable in nervous sleeplessness and in acute mania; 8-grain doses produce calm and quiet sleep.

In insomnia good effects were produced in 37 out of 63 cases, moderately good in 15. The patients awoke with no toxic after-effects.—Pr. xxix.377; M.P.C. ii./82,268; M.R. 1882,453.

Cannabis is useful for chordee and asthma, and as an aphrodisiac.

It is *the* remedy for menorrhagia.—B.M.J. i./83, 1002.

Cannabinon.

Dose.—$\frac{1}{4}$ to 1 grain.

A purified resin, dark brown in colour, and of the consistence of treacle. Has also been used as a sedative in doses to relieve mania, hysteria, and sleeplessness, and is said to be more certain and powerful than the tannate of cannabin. For dispensing purposes, a dilution is made of 1 to 9 of sugar of milk.

CANTHARIS.

Cantharides (*Off.*).

Syn.—LYTTA; SPANISH OR BLISTERING FLY.

Dose.—$\frac{1}{16}$ to $\frac{1}{2}$ a grain in a pill. Better given as tincture.

Of this, the dried insect—*Cantharis vesicatoria*—there are the following preparations official:—Acetum, 1 in 10; emplastrum, 1 in 3; tinctura, 1 in 80; unguentum, 1 in 7; charta epispastica; liquor epispasticus, 1 in

4, (p. 114) ; and emplastrum calefaciens, 1 in 25. The medicinal properties of cantharides are due to a neutral crystalline principle

Cantharidin, in flat glistening rectangular prisms, which melt at 200° C., and volatilize in very irritating white fumes. It is soluble 1 in 84 of chloroform, about 1 in 100 of acetic ether. Soluble also in ether, benzol, glacial acetic acid, fats and oils; 1 in 3,300 of alcohol, insoluble in water. Solutions of Cantharidin, as well as other preparations of cantharides, are employed for stimulating the growth of the hair, in alopecia, and preventing its falling off, as in the following preparation:—

Linimentum Crinale (Squire).

Cantharidin	1 grain.
Acetic ether	2 drachms.

Dissolve with a gentle heat, and add

Rectified Spirit	3 ounces.
Castor Oil...	1 ounce.
Oil of Lavender	15 minims.

"It produced successful vesication of every portion of the scalp to which it was applied."—L. ii./79,713. It is, therefore, too strong to be used freely. It is better to dilute it with an equal quantity of spirit, and the head should be washed after applying it a few times, to prevent the cantharidin accumulating.

References to Cantharidin.

Effects of poisoning by, on kidney and bladder.—L i./80,261; Pr. xxv.53.

Collodium Vesicans (*Off.*).

Blistering Liquid (see p. 114)	20 ounces.
Pyroxylin	1 ounce.

Dissolve. It evaporates quickly, and its action is confined to the part on which it is painted. It is specially useful to apply to the temple or behind the ear, or other parts of the body where the Pigment would not locate itself. It is now made too viscid ; half the quantity of pyroxylin was ordered in our last edition. This official formula, although borrowed from us, contains about double as much pyroxylin as plain collodion does.

Liquor Epispasticus, Blistering Liquid* (*Off.*).

Cantharides in powder	...	5 ounces.
Acetic Ether ...	...	*q.s.*

Pack the cantharides in a percolator and moisten with 3 ounces of the ether. After 24 hours, add more acetic ether, and continue the percolation slowly, till one pint of percolate is obtained.

In addition to the official Emplastrum Cantharidis a plaster is made in rubber combination, which is convenient for surgeons' use, as it keeps well and merely requires the surface oiling before applying; it contains a little camphor, which is said to prevent strangury.

CAPSICI FRUCTUS.

Capsicum Fruit.

Dose in powder.—½ to one grain, in a pill.

From this, the well-known fruit of *Capsicum fastigiatum*, a crystalline principle, **Capsaicin**, possessing great power, has been obtained by Dr. Thresh.—P.J. 1877,187. It caused in $\frac{1}{25}$ grain doses violent griping pain with purgative effect. It is not in commerce.

A **Snuff,** under the name of **Pulvis Boracis Compositum,** composed of capsicum, in fine powder, 15, borax 20, carbonate of ammonium 10, recommended for hay fever.—B.M.J. i./84,1230.

Capsicin.

An impure acrid oleo-resin, obtained from capsicum fruit, is sometimes in request.

Dose.—⅛ to ¼ grain in a pill.

Emplastrum Capsici.

Capsicum plasters in rubber combination are made in sheets 7 in. by 5 in., and yard rolls 7 in. wide.

Tinctura Capsici (*Off.*).

1 in 27 nearly of rectified spirit.

Dose.—3 to 20 minims.

Given internally it increases the flow of saliva and gastric juice. It also increases the peristalsis of the intestine, relieves atonic dyspepsia, and is useful in dipsomania—it allays the craving for alcohol. The official tincture is too weak for external use as a rubefacient.

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* This, in former editions of the EXTRA PHARMACOPŒIA, was termed PIGMENTUM EPISPASTICUM, and was about one-third stronger. The old Liquor Epispasticus, B.P., was prepared with acetic acid and ether as a menstruum.

Concentrated Tincture of Capsicum.

1 in 3 of rectified spirit, was employed by Turnbull externally. This is too irritating generally. The writer has found the following approved of:—

Linimentum Capsici.

Capsicum Fruit in coarse powder	1¼ ounce.
Rectified Spirit	*q.s.*
Percolate to obtain	8¾ ounces.
Add Oleic Acid	9½ drachms.
Oil of Lavender	½ drachm.

Painted on the skin, or applied sprinkled on piline or lint covered with American oiled cloth, in an hour it produces a red glow; its action may be arrested by smearing the part with vaseline. Useful in chest affections, rheumatism, sciatica, &c.

CARBONIS TETRACHLORIDUM.

Carbon Tetrachloride.

A heavy, volatile, and mobile chloroform-like liquid, has a pleasant pungent, quince-like odour if pure. Sp. Gr., 1·56. The vapour inhaled relieves hay-fever. Employed locally, sprinkled on piline or lint covered with American oiled cloth, it quickly relieves neuralgic pains. Has been used as, but is not a successful anæsthetic.

Anæsthesia rapidly produced by it, effects soon pass off; relieves pain and causes sleep.—L. i./67,574.

Chemical properties, physiological experiments, and uses for inhalation.—L. i./67,660.

Eighteen cases of its inhalation to relieve pain, and for operations and midwifery.—L. i./67,693,762.

Hay-fever, dysmenorrhœa and tic-douloureux relieved by it.—L. i./67,791.

CARMINUM.

Carmine.

A brilliant red colouring matter prepared from the cochineal insect—*Coccus Cacti*. It is insoluble in water, but entirely soluble in aqueous ammonia. It is not employed medicinally, but is much used for staining histological specimens.—See Appendix.

Liquor Carmini.

Carmine ... ... 40 grains.
Distilled Water *q.s.* to moisten.
Strong Solution of Ammonia 40 minims.
Dissolve, and add
Distilled Water to ... ... 1 ounce.

Used to colour various preparations for the toilet, &c.

Cascara Sagrada (*Off.*).—See p. 305.

CAULOPHYLLIN.

Dose.—1 to 4 grains in a pill, with glycerine of tragacanth.

A brown resinoid powder obtained from the root of *Caulophyllum thalictroides*—blue cohosh, pappoose, or squaw-root. It possesses diuretic, diaphoretic, and anthelmintic properties, and is used as an emmenagogue, parturient, and antispasmodic. It appears to exert a direct influence on the uterus.

Chinoidin, U.S.—See Quinoidina, p. 303.

CHINOLINUM.

Chinoline.

Dose.—3 to 10 minims.

A transparent, colourless, strongly-refracting, mobile, oily liquid, with a peculiar odour, soluble in alcohol, but insoluble in water. May be obtained as a derivative of cinchonine and quinine, but recently prepared synthetically by heating, with certain precautions, a mixture of nitro-benzol 24 parts, aniline 38, glycerine 120, and strong sulphuric acid 100. The chinoline is separated by adding caustic soda in excess and distilling in a current of steam.—P.J. 1882,245.

Chinolini Tartras.

Dose.—5 to 15 grains in chloroform water, with syrup of orange, or in wafer paper.

This salt is most recommended for use. It is, when pure, in odourless, glistening, white acicular crystals, nauseous in taste, and soluble about 1 in 40 of water.

Salicylate of Chinoline

Is also sold. It is less soluble than the above.

The mineral acid salts of chinoline, being mostly deliquescent, do not crystallize well.

Tartrate of chinoline is a powerful germicide and antiseptic. A one per cent. solution completely destroys the coagulability of blood, and weaker solutions render sterile, propagating fluids. Therapeutically, it is a powerful antipyretic in enteric and intermittent fevers, useful in periodic neuralgia, and as a local antiseptic.—B.M.J. ii./81,408; P.J. 1881,279,317,532; P.J. 1882, 624,661; L. i./82,324.

Used in diphtheria, as a pigment to paint the fauces. 5 per cent. of pure chinoline in solution of equal parts spirit and water, and more dilute as a gargle, checks the onset of the dangerous symptoms and in many cases membrane is cast off within 24 hours.—Pr. xxix.447.

Antipyrin.

Syn.—DIMETHYLOXYCHINIZIN.

Dose.—15 to 30 grains.

To effect material reduction in temperature, 45 to 75 grains are sufficient, given in three doses hourly of 30 grains, then 30 again, and lastly 15 grains; or 15 grains hourly for three hours; 75 grains should suffice for 24 hours. 30 grains dissolved in 16 minims of warm water may be injected hypodermically, or may be given at twice.

Is in white granular crystals, which melt at about 233° F., are bitterish in taste, readily soluble in water, and the solution gives a deep red colour with solution of perchloride of iron. It reduces the temperature of fevers, including typhoid, scarlet, relapsing, puerperal, and hectic, and subdues the pyrexia of pneumonia, pleurisy, phthisis, and erysipelas. A measly rash has at times been observed after its use; the urine is not discoloured. —L. ii./84,32; L. i./85,34,1051; B.M.J. ii./84,914; B.M.J. i./85,1223; Edin. Med. Jour. 1884, 390.

Specially useful for children; give three doses of as many decigrammes (1½ grains) as the child is old.—Pr.xxxiii.461.

Use in hectic of phthisis; in chronic fever it has no rival.—Pr. xxxiv. 321.

Death in a case in which it had been administered.—L. i./85,382.

Use in erysipelas, acute rheumatism, and typhus.—L. i./85,862.

Kairine.

Dose.—5 to 8 or 15 grains in pill with glycerine or tragacanth or wafer paper.

The hydrochlorate of oxychinoline-ethyl is used as a febrifuge under this name. It is in minute white granular crystals, freely soluble in water, less so in alcohol, insoluble in ether; the aqueous solution is precipitated by ammonia; the taste is saline, bitter, and persistently nauseous. At London Fever Hospital no patient could be induced to take a second dose in solution.

Used in various fevers, and acute inflammations, it may colour the urine green.—L. ii./83,344,552.

Peritonitis 3 cases, doses of 3 grains every hour, reduced pulse and temperature.—B.M.J.i./84.250.

Clinical note on; is a very powerful, if not the most powerful antipyretic.—B.M.J.i./84,711.

Best given hypodermically; acts more rapidly, and effects last longer.—L. ii./84,32.

A solution of kairine prevents water altering the shape of blood corpuscles.—L. ii./84,208.

A good and safe antipyretic; in rheumatism it reduces the temperature, and produces copious perspiration.—B.M.J. ii./84,1125.

Reduces the oxygen-absorbing power of the blood.—Pr. xxxiii.56.

Thalline, Tetrahydroparamethyloxychinoline or Tetrahydroparachinanisol.

Syn.—THALLINÆ SULPHAS, Sulphate of Thalline.

Dose.—3 to 8 grains.

In white or whitish granular crystals, melts at 212° F., has a nauseous, slightly pungent taste, soluble 1 in 5 of cold water, which darkens by exposure to light; the solution gives an emerald green colour with perchloride of iron. It possesses marked antipyretic properties, but diminishes the respiratory capacity of the blood by destroying its hæmoglobin, in this respect resembling kairine rather than antipyrin. Full doses have been known to produce dark-coloured urine. Reports of its action are found to vary; some have noticed a gradual fall in temperature and absence of secondary disturbance, whilst others note a sharp fall, followed by rigors.—L. ii./84,1018; L. i./85,723; B.M.J. i./85,1176.

CHLORAL HYDRAS.

Hydrate of Chloral (*Off.*).

Dose.—5 to 30 grains, in aqueous solution, or in chloroform water well diluted.

This hypnotic, produced by the action of chlorine on absolute alcohol and subsequent purification, is now well known. Its manufacture is a step short of the complete formation of chloroform. When first obtained as pure chloral it is liquid, by the addition of water to form hydrate it crystallizes. The pure detached crystals are preferred. They are soluble 3 in 1 of water—1 grain may be held in solution in one minim of aqueous solution. Freely soluble also in rectified spirit and ether, and in four volumes of chloroform, likewise soluble in oils and fats. The aqueous solution is decomposed by alkalies into chloroform, and formic acid, which combines with the alkali, should thus yield 72·2 per cent. (not less than 70 per cent. B.P.) of chloroform. Hydrate of Chloral heated first liquefies, then boils and becomes volatilized without residue. It should have, although pungent, no odour of chlorine; its aqueous solution is neutral, or nearly so. Its acrid taste is best disguised by free dilution, with addition of syrup of tolu and chloroform water; 5 grains may be made into a pill with ½ grain Canada balsam, or with a little syrup and tragacanth. As a hypnotic, it is often combined with opiates or morphia, or bromides. Its use is contra-indicated in heart affections, Bright's disease, and when the vital force is very weak. Poisonous doses are best treated after emetics, &c., with hypodermic injection of sulphate of strychnine and inhalations of nitrite of amyl. $\frac{1}{20}$ grain of picrotoxin is said to be enough antidote for 30 grains of chloral.—B.M.J. i./75,506; L. ii./238.

It is useful as an antidote to poisoning by strychnine, and as a remedy for tetanus. A solution of chloral possesses powerful antiseptic properties.

Tetanus, recovery from, under large doses of chloral; 6 ounces were given.—L. ii./84,272.

Preparations.

Chloral cum Camphorâ (Pigmentum Chloral et Camphoræ, T.H.).

Flowers of Camphor,
Hydrate of Chloral, of each 1 ounce.

Rub together in a warm mortar until completely liquid and filter. It remains permanently liquid at ordinary temperatures, and forms a valuable application painted on painful parts in neuralgia and rheumatism. It mixes freely in alcohol, ether, oils, and fats, but not with water or glycerine: the camphor is precipitated on its addition to these. The compound (Chloral and Camphor) dissolves the alkaloids atropia, morphia, and veratria to the extent of 1 in 30 or more, but their salts are less soluble in it. Liquefactions of a similar kind take place on mixing and gently heating respectively

Menthol 1, Chloral Hydrate 1.
Thymol 1, Chloral Hydrate 1.

These may prove useful therapeutic agents.

Suppository of Chloral.

Hydrate of Chloral...	...	5 grains.
Oil of Theobroma ...	...	10 grains.

Pound together and press into the mould. Heat must not be applied, else the mixture will not set firm. It is useful in infantile convulsions, where nothing can be administered by the mouth. It should be forcibly retained for a few minutes with the finger, if necessary.

Syrupus Chloral.

Hydrate of Chloral...	...	80 grains.
Distilled water ...	...	½ ounce.

Dissolve and add

Syrup *q.s.* to ...	...	1 ounce.

Dose.—½ to 2 drachms.

CHLOROFORMUM.

Chloroform (*Off.*).

Syn.—TERCHLORIDE OF FORMYL.

Dose.—1 to 10 minims, suspended in equal parts of mucilage and water, or in a perle. Small doses may be given as chloroform water or spirit of chloroform.

This well-known, colourless, mobile, volatile liquid is prepared by distilling a mixture of chlorinated lime, slaked lime, alcohol, and water, treating the distillate with sulphuric acid and redistilling. It is soluble in all proportions in absolute alcohol, pure ether, fixed and volatile oils, and 1 in 200 of water. It does not mix with glycerine. It is a solvent for mastic and most resins, many alkaloids, iodine, bromine, and of phosphorus and sulphur sparingly. It also dissolves gutta-percha and india-rubber. It acts on india-rubber even when vulcanized.

Commercial Varieties.

Chloroform from rectified spirit.

Chloroform from methylated spirit (*purified*).

Chloroform from methylated spirit (*commercial*).

If the Chloroform from methylated spirit be carefully purified, it is indistinguishable by chemical or other means from that prepared from pure spirit, and is equally safe and efficient as an anæsthetic, but this is not the case with the commercial variety. Chloroform, according to the Pharmacopœia, has Sp. Gr. 1·497, and contains 1 per cent. by weight of absolute alcohol, which prevents its decomposition. Absolute Chloroform has Sp. Gr. 1·5; it quickly decomposes, especially on exposure to sunlight, and liberates chlorine; the addition of one-thousandth part by weight of absolute alcohol is sufficient to check this change. Chloroform should be carefully excluded from sunlight. Owing to the alcohol it contains, it is slightly coloured by agitation with sulphuric acid, but leaves no residue or unpleasant odour after evaporation,—a good and simple test. Permanganate of potassium solution, rendered alkaline with caustic potash, has been suggested, both as a test and as a purifier of Chloroform. Commercial Chloroform, when shaken with a little of this solution, quickly turns green; but this has been shown to be due principally to the alcohol added as a preservative. Absolute Chloroform does not change the violet colour of the test.—P.J. 1882,711,740,760,769, 784; L. i./82,355; B.M.J. i./82,62,331. A Chloroform prepared from chloral has been recommended as being extra pure, but is not superior to that made direct from alcohol.

Although the most generally-used of anæsthetics, it has of late fallen into disfavour, ether and dichloride of ethidene having somewhat supplanted it. It is agreeable to the patient, rapid in its action, produces complete insensibility, and there is an absence of excitement and movements during the operation, such as is produced by ether; but Chloroform has a decided effect in reducing the blood pressure, while ether has no appreciable effect of this kind, and Chloroform has sometimes an unexpected and apparently capricious effect on the heart's action, the pressure being reduced with great rapidity almost to *nil*, while the pulsations are greatly retarded or even stopped.—B.M.J. ii./80,970.

Antidotes and References.

In syncope from Chloroform inhalation, 3 drops of nitrite of amyl (a capsule is convenient) restores respiration and circulation, with flushed face and return of sensibility when the pulse or breathing becomes defective, with lips blue, &c.—L. i./75,644.

Atropine injected hypodermically is suggested as an antidote to the cardio-inhibitory effects of Chloroform.—B.J. ii./80,620,715,761.

Professor Von Nussbaum and Professor Claude Bernard have shown that mixed narcotism and anæsthesia reduce the quantity of Chloroform necessary to produce anæsthesia; if $\frac{1}{6}$ to $\frac{1}{4}$ grain of morphia be injected hypodermically before the Chloroform is administered, less Chloroform is needed, the insensibility is more profound, and the danger attending its use is lessened. Of importance in hot climates, where the low boiling-point of ether prevents its being used.—Pr. xxv.401; L. ii./82,1031.

Sudden application of large cloth dipped in boiling water to cardiac region in threatened death through syncope from chloroform anæsthesia, was successful in restoring.—L. i./81,1015.

Vegetable and animal infusions and decoctions can be preserved indefinitely by the addition of 1 minim of Chloroform to the ounce of liquid, if vessels containing it be well closed. Better to mix the Chloroform with double its volume of rectified spirit before adding it to the fluid to be preserved.—L. ii./81,694; Pharm. Jour. 1874,441.

Resuscitation from Chloroform syncope by inversion of the body, certainly saved patient.—B.M.J. i./81,559.

Statistics of and correspondence on the recent deaths from.—B.M.J. i./82,247,287.

Is a strong poison to the ventricle of the frog's heart. Solution of ammonia antagonises its paralyzing action.—Pr. xxvi.437.

In 1882 statistics with particulars of 23 deaths from Chloroform, 4 from ether and 1 from Chloroform and ether.—B.M.J. i/83,353; statistics of 1883.—B.M.J. i./84,351; of 1884, B.M.J. i./85,887.

Anæsthetic Preparations of Chloroform.

Capsules of Chloroform.

Encased in cotton wool and silk; contain 10 minims in each. Are convenient for use in asthma, &c.; may be fractured and used by the patient while in bed.

Chloroform combined with alcohol or Eau-de-Cologne, as well as Chloroform and ether mixed in various proportions, have been used as anæsthetics. Generally one volume of Chloroform is added to two volumes of ether for this purpose. A mixture also which received the approval of the committee of the Medico-Chirurgical Society is known and prepared as follows:—

A.C.E.

Alcohol, Sp. Gr. 0·838 ...	1 volume.
Chloroform, Sp. Gr. 1·497 ...	2 ,,
Ether, Sp. Gr. 0·735 ...	3 ,,

The author has been in the habit of preparing it from the more definite ingredients—viz.:—

Absolute Alcohol, Sp. Gr. 0·795	1 volume.
Chloroform, Sp. Gr. ...1·498	2 ,,
Pure Ether, Sp. Gr. ...0·720	3 ,,

The mixture has Sp. Gr. 1·01.

The three ingredients are intended to be mixed in such proportions that, when the quantities of each taken separately are exposed to the air in watch glasses, they shall completely evaporate in the same time. It is held they will, from this mixture, evaporate uniformly.

A.C.E. is as effective as pure Chloroform, and a safer agent when deep and prolonged anæsthesia is to be produced, while at the same time it is sufficiently rapid in its operation to be convenient for general use, although it takes a longer time than Chloroform (10 to 15 minutes) to procure anæsthesia.—Medico-Chirurgical Transactions, xlvii.341,343.

This mixture is of great service in midwifery, where complete anæsthesia is not required.

Safer than Chloroform and quicker than ether.—L. i./79,788.

Recommended for use as safe.- L. i/82,328.

In Vienna, the author was informed, a modification of this consisting of Alcohol 3, Ether 3, and Chloroform 10, all by weight, is always used at the General Hospital.

Chloramyl.

Chloroform	1 pound.
Nitrite of Amyl	2 drachms.

Is not much in use. It is said to possess all the advantages of Chloroform without its dangers. Both the heart's action and respiration are kept up thoroughly throughout the anæsthesia, and this is quickly produced.—B.M.J. i./79,640.

General Preparations of Chloroform.

Internally Chloroform is an antispasmodic and sedative. On account of its agreeable taste it is often added to nauseous medicines, in the form of Spirit of Chloroform, to disguise their taste. Chloroform also acts as an antiseptic, and checks the development of fungoid growths in vegetable infusions. Externally it produces a local anæsthesia, and is added to liniments to aid their absorption and to allay pain in neuralgia.

Aqua Chloroformi (*Off.*).

Chloroform	1 volume.
Distilled Water	200 volumes.

Shake till dissolved.

Dose.—½ to 2 ounces.

Chloroformum Camphoratum.

Camphor	2 ounces.
Chloroform	1 ounce.

Useful for toothache, applied on cotton wool.

Liquor Chloromorphiæ, Chloromorphia Solution.

		Contains in a 10 minim dose :—
Chloroform	2 ounces.	2 minims.
Rectified Spirit	2 ounces.	2 minims.
Treacle	4 ounces.	4 grains.
Liquid Extract of Liquorice	1½ ounce.	1½ minims.
Hydrochlorate of Morphine	40 grains.	$\frac{1}{12}$ grain.
Sulphate of Atropine ...	1 grain.	$\frac{1}{480}$ grain.
Oil of Peppermint ...	8 minims.	$\frac{1}{60}$ minim.
Diluted Hydrocyanic Acid...	160 minims.	$\frac{1}{3}$ minim.
Tragacanth in powder ...	20 grains.	$\frac{1}{24}$ grain.
Distilled Water *q.s.* to ...	10 ounces.	

Rub the morphine, atropine, and tragacanth with the liquid extract of liquorice and transfer to a bottle. To the spirit add the Chloroform and oil of peppermint.

Mix this gradually with the morphine solution, then add the remaining ingredients and shake well.

Dose.—5 to 20 minims. Is useful as a sedative, and more nearly resembles the secret remedy, Chlorodyne, than the official Tinctura Chloroformi et Morphinæ, and **caution** it contains 4 times as much Morphine.

Linimentum Chloroformi (*Off.*).

Chloroform, 2 ounces. Liniment of Camphor, 2 ounces.

Perles of Chloroform contain about 3 minims in each.

Dose.—1 or 2.

Spiritus Chloroformi (*Off.*).

Chloroform, 1 ounce. Rectified Spirit, 19 ounces.

Dose.—5 to 60 minims.

Tinctura Chloroformi Composita (*Off.*).

Chloroform	2 ounces.
Rectified Spirit	8 ounces.
Compound Tincture of Cardamoms	10 ounces.

Dose.—5 to 60 minims.

Tinctura Chloroformi et Morphinæ (*Off.*).

		Contains in a 10 minim dose:—
Chloroform	1 ounce	$1\frac{1}{4}$ minim.
Ether	2 drachms.	$\frac{1}{3}$ minim.
Rectified Spirit	1 ounce.	$1\frac{1}{4}$ minim.
Hydrochlorate of Morphine	8 grains.	$\frac{1}{48}$ grain.
Diluted Hydrocyanic Acid	$\frac{1}{2}$ ounce.	$\frac{5}{8}$ minim.
Oil of Peppermint	4 minims.	$\frac{1}{96}$ minim.
Liquid Extract of Liquorice	1 ounce.	$1\frac{1}{4}$ minim.
Treacle	1 ounce.	$1\frac{1}{4}$ minim.
Syrup *q.s.* to	8 ounces.	

Dissolve the morphine and oil of peppermint in the spirit, and add the chloroform and ether. Mix the extract and treacle with three ounces of syrup, add this to above solution, mix, and further add the hydrocyanic acid and syrup *q.s* to eight ounces. On standing a few days, a colourless liquid separates and floats on the top of this tincture. In chlorodyne the colourless liquid sinks on standing, owing, as the writer thinks, to the absence of ether—this he has been unable to detect in it.

CHRYSAROBINUM.

Chrysarobin (*Off.*).

Syn.—ARAROBA POWDER; GOA POWDER; PO' DE BAHIA.

Dose.—$\frac{1}{6}$ to $\frac{1}{2}$ grain.

A concretion (erroneously stated in the B.P. to be the medullary matter) obtained from the stem and branches of a leguminous tree, *Andira Araroba*, dried and powdered.

The crude substance has, apparently in error, been made official. It is imported from Brazil mixed with chips of wood, as a rough powder or in small pieces. It is at first of a light yellow colour, but turns pale brown and darkens by exposure. About 80 per cent. of its weight consists of chrysarobin, or chrysophanic acid so-called, to which it owes its medicinal properties. It has been known and used in India under the name of Goa powder as a remedy for Indian ringworm and other skin diseases. The Portuguese settlers at Goa imported it from Brazil. In 1874 some Araroba was offered in the London drug market from Brazil, of which the writer got a sample; nothing was known of it except that it was a remedy for skin diseases. A specimen was afterwards exhibited at the Pharmaceutical Meeting in March, 1875. The writer having previously supposed the Indian drug (from information given to him by Dr. Giraud, late of Bombay) was the same as Araroba, asked about their identity.—P.J. 1875,716. This Dr. Attfield ultimately established, and also that they consisted principally of chrysophanic acid.—P.J. 1875,721. Papers on its history and uses appeared almost simultaneously by Sir Jos. Fayrer and Dr. Da Silva Lima.—M.T.G. ii./74,470; M.T.G.i./75.249. The Indian mode of using the drug was to cut a lime fruit, dip it in the powder and dab it on the affected skin. The Brazilians mixed it with vinegar, and applied it, or used an ointment, 20 to 40 grains with 10 drops of acetic acid to an ounce of lard.—M.T.G. i./75,249; P.J. 1875,723.

For the further chemical history and botanical source, *vide* P.J. 1864,345; 1875,721,801; 1877,709; 1879,775, 986; 1880,42, 814.

Chrysarobinum Purum, Pure Chrysarobin.

Syn.—RHEIN, CHRYSOPHANIC ACID (in error so called).

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain or more in skin diseases; 8 to 20 grains is an emetic purge.—B.M.J. i./77,608.

For use in medicine this has almost entirely displaced the crude—now official—araroba. It is found as a dull orange yellow powder, but can be obtained by sublimation in bright shining yellow needles. It has an acrid taste, but is without odour. It is contained in Rhubarb root, Dock root, and the Yellow Wall Lichen, &c., but commercially it is prepared from Araroba or Goa powder by exhausting this with hot benzol or petroleum spirit, filtering and allowing the Chrysarobin to crystallize out. It is not soluble in weak solution of potash but by the action of a stronger solution of this alkali in contact with the air it dissolves and becomes converted into chrysophanic acid in combination with potassium, from which true chrysophanic acid may be separated by the action of a mineral acid.—P.J. 1879,896.

Chrysarobin is freely soluble in hot benzol, hot chloroform, hot oil of turpentine and several volatile oils; in hot glacial acetic acid and hot glycerine about 1 in 60; olive oil, melted lard and vaseline dissolve it largely if heated, but on cooling any of these solutions much of it crystallizes out. It is insoluble in water, rectified spirit, and ether. It may be made into pills with glycerine of tragacanth.

Used externally, chrysarobin is a powerful stimulant and parasiticide in many skin affections. It has also been administered internally for psoriasis, but even in half-grain doses it purges the patients so much, that as a rule its use cannot be persevered in to produce a cure.

Unguentum Chrysarobini (*Off.*).

Chrysarobin	1
Benzoated Lard	24

Mix, heat to dissolve as much as possible, and stir till cold. Preferably, pure Chrysarobin is used. Unguentum Chrysarobini, U.S., is 1 in 10 of benzoated lard, about double the strength of the above.

Chrysarobin ointment has been used as a successful remedy in psoriasis, lupus, ringworm of the scalp, pityriasis, tinea circinata, &c. For some forms of eczema and other skin affections a milder ointment should be used—5 to 10 grains to an ounce. It is important that the drug should be dissolved in the fat. It stains the skin and hair, and a strong ointment after three days' continued use sometimes produces feverishness and irritation, accompanied by discoloration of the skin beyond the parts to which it has been applied. The stains can be removed from the skin, linen, &c., with benzol, or a weak solution of potash or chlorinated lime.

In Vienna, for psoriasis, M. Auspitz uses each day, or every two or three days, according to extent of surface effected, with soap baths intervening, a pigment composed of chloroform (by weight) 8, chrysarobin (pure) 1, dissolve and add gutta percha 1; dissolve again.—Pr. xxxiii.52; Pr. xxxiv.135; B.M.J. i./84,1006.—M. Besnier first paints on the part a 10 to 15 per cent. solution of chrysarobin (pure) in chloroform, and covers it with the gutta percha varnish known as

Traumaticin, composed of

Gutta Percha (purified	1
Chloroform (by weight)	9

Dissolve.

As this is about the same strength as LIQUOR GUTTA PERCHA, B.P., 1 in 8 (fluid), the writer prepares M. Auspitz's application thus :—

Pigmentum Chrysarobini.

Chrysarobin (pure)	1 ounce.
Liquor Gutta Percha, B.P....	9 fluid ounces.

Mix the liquor with the chrysarobin in a mortar, quickly transfer to a bottle, and shake well.

Two cases of chronic psoriasis cured by the acid.—B.M.J. ii./76,819.

For tinea, ointment 20 grains to one ounce.—B.M.J. i./77,199.

Psoriasis cured, when tar ointment failed.—B.M.J. i./77,510, 546; B.M.J. i./78,663, 866.

Occasions sometimes erythematous irritation of the skin with violet or purplish discolorations, and at times minute papules.—B.M.J. i./79,223.

Useful as ointment, 20 grains to one ounce in acne rosacea.—M.T.G. i./77,665.

Ointment very useful in tinea, psoriasis, &c.—Pr. xx.415; Pr. xxi.444.

Chrysarobin is a powerful local stimulant; not, however, tending towards vesication or ulceration; curative properties best shown in psoriasis; is an undoubted parasiticide, especially in ringworm of the body and tinea versicolor.—Pr. xxii.376.

Nine cases of tinea circinata cured in a week by Goa powder ointment, not so successful in tinea tonsurans.—L. i./77,124.

Case of psoriasis cured by chrysarobin ointment, interesting, as showing that the drug does not act constitutionally.—L. ii./81,74.

For psoriasis given in dose of $\frac{1}{2}$ to 2 grains internally with success.—L. i./82,817.

For psoriasis, results given internally not favourable; caused vomiting, but ointment used successfully.—L. ii./82,702.

For the same disease in $\frac{1}{10}$ to $\frac{1}{5}$ grain doses given with success.—L. ii./82,792.

Given internally to three cases of psoriasis without success.—L. ii./82,935.

In ringworm, 7 grains to 1 ounce of chloroform applied thrice daily sinks in deeply. B.M.J. ii./84, 858.

In psoriasis, is used with the greatest success, but its disadvantages are well known.—L. ii./85,577.

CIMICIFUGÆ RHIZOMA.

Cimicifuga (*Off.*).

The rhizome and rootlets of *Cimicifuga racemosa* (*Actæa racemosa*, Linn.), black snakeroot or black cohosh. Indigenous in the United States and in Canada.

Preparations.

Cimicifugin.

The powdered resinoid substance of a yellowish brown colour obtained from black snakeroot.

Dose.—1 to 6 grains in pill with glycerine of tragacanth, as a nervine tonic and antispasmodic, given for rheumatism, chorea, amenorrhœa, and to excite contraction of the uterus.

Extractum Cimicifugæ Liquidum (*Off.*).

1 = 1 of Cimicifuga exhausted with rectified spirit.
Dose.—3 to 30 minims.

Tinctura Cimicifugæ (*Off.*).

Syn.—TINCTURA ACTEÆ.

1 in 8 of proof spirit—about one-third weaker than our former tincture.

Dose.—15 to 60 minims or 5 minims every hour.

Very useful in chronic rheumatism where one part of a tendon, muscle, or articulation is exquisitely painful, or where the disease is traceable to previous uterine affection; also in lumbago, sciatica, pleurodynia, and headache from fatigue.—R.

In chronic rheumatism and obscure nerve-pains, also in lumbago very valuable in dose of 30 minims twice or three times a day.—L. ii./62,238.

CINCHONA.

Cinchona (*Off.*).

Dose.—5 to 60 grains.

The official Cinchona Bark for the production of salts of quinine and cinchonine may be the following dried barks:—Yellow Cinchona bark, obtained from *Cinchona Calisaya;* pale Cinchona bark (crown or Loxa bark) from *Cinchona officinalis;* red Cinchona bark, from *Cinchona succirubra;* the bark of *Cinchona lancifolia*, Mutis, and other species of Cinchona; that of certain species of Remijia may also be used. The only kind official for making galenical preparations is the cultivated Red Cinchona bark. See p. 135.

The sources of the principal "barks" of commerce may be tabulated as follows:—

I.	C. officinalis, *var.* α, Condaminea ,, ,, β, Bonplandiana ,, ,, γ, crispa	yielding	crown bark.
II.	C. succirubra (Pavon),	yielding	red bark.
III.	C. nitida C. micrantha C. Peruviana	,,	grey bark.
IV.	C. Calisaya	,,	yellow bark.
V.	C. lancifolia C. cordifolia	,,	Columbian bark.
VI.	C. Pitayensis	,,	Pitayo bark.
VII.	Remijia Purdieana ,, pedunculata	,,	Cuprea bark.

Two or three years ago the principal importations of Cinchona barks came from New Grenada (United

States of Columbia), and Ecuador; and, with the exception of the Cuprea bark, principally from the Pacific ports; but, owing to revolution, which stops all trade and collection of produce, imports from these sources have become almost *nil* (August, 1885).

The principal commercial varieties were:—**Soft Columbian**, produced by *C. lancifolia, var. oblonga* and sometimes mixed with the valueless *C. lucumæfolia*—a good quinine-yielding bark. **Soft Carthagena**, produced by *C. lanceolata* and probably other species, comes principally from Guayaquil, is rich in quinine and cinchonidine. **Hard Carthagena**, or **Hard New Grenada**, principally produced by *C. cordifolia, C. rosulenta*, &c. These are barks rich in cinchonidine, with some quinine. **New Grenada**, produced by varieties of *C. lancifolia*, and probably *C. Palton*. This commercial variety is the most valuable of Columbian barks, being rich in quinine. **Pitayo**, produced by *C. Pitayensis*, comes from the district of Popayan, in New Grenada; it is the chief source of quinidine, but also contains cinchonine and quinine. **Cuprea**, produced by *Remijia Purdieana* and *R. pedunculata*, is a hard Columbian bark, in thickish curved pieces, of a dark reddish coppery colour, often marked externally by large lenticular depressions. It is collected at the base of the mountains of La Paz, in the basin of the Magdalena River—Bucanamauga being the centre of collection and Barranquilla the port from which it is sent to Europe. Other varieties of this bark come from the valleys of the rivers Meta and Guaviare, affluents of the Orinoco. Cinchonidine is generally absent from Cuprea barks, and in some a new principle, nearly allied to quinine, has been found, named Homoquinine, or Ultraquinine; of five parts of this, two have been resolved into quinine and three into cupreine, another new alkaloid; its salt, **Sulphate of Cupreine**, is sold in light feathery crystals. An alkaloid named Cinchonamine has also been found in some samples. **Maracaibo**, produced by *C. Tucujensis*, is a hard, yellow, very inferior bark.

These Columbian barks, with the exception of Cuprea, being generally free from colouring matter, and not possessing much astringency, are valuable for the manufacture of quinine and other alkaloids; they are rarely bought by the druggists for making pharmaceutical preparations; the London imports from this source this year (1885) to end of July were only about 923 packages, with about 915 packages of Calisaya (Bolivia), against 45,099 East India packages (and these are now larger than formerly).

Last year (1884) the imports from South America were much less also, and the stocks held here at the end of the year were only about one-half, yet the price of bark as well as that of quinine fell, and since sulphate of quinine has sold as low as 2s. 6d. per ounce, but has advanced again.

Lima Huanuco, or **Grey Barks,** from *C. nitida, C. micrantha,* and *C. Peruviana,* are not now much imported, and in commerce are found very inferior in quality.

Latterly, also, the supply of yellow or **Calisaya Bark**—the kind most prized by English pharmacists, from Bolivia and Southern Peru—has fallen off, either on account of the war or it is nearly exhausted.* The flat kind is very scarce, and that which is chiefly sold as such contains little or no quinine. Of the quills the supply is better, and, judging by its price, it maintains its quality. Of the **Red Bark,** in bold, thick pieces, as a South American product, very little is now imported. American **Pale Bark** in quills still arrives, but it is of inferior quality. Sir J. Hooker has restored the old name of Linnæus to the species yielding this bark; it is now known as *Cinchona officinalis* and *Cinchona Condaminea* is classed as a variety of it.

The reckless destruction of the Cinchona trees in their native habitats, led the British and Dutch Governments, as well as private individuals, to commence the cultivation of them, and for many years now the Indian, Java, Ceylon, and Jamaica plantations have been very productive of Cinchona bark. The species which have been most successfully cultivated are *C. succirubra. C. officinalis,* and some varieties of *C. Calisaya;* of the last, *var. Ledgeriana* has proved the most valuable.

In Java the Cinchona has been cultivated during the last twenty-six years on its mountainous regions; exclusive of the *C. Pahudiana*, which was worthless and a mistake, there were, in 1879, 1,678,670 Cinchona-trees planted out, consisting principally of the species *C. Calisaya* (including *var. Ledgeriana*), *C. officinalis*, and *C. succirubra*.

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* Although recently energetic steps have been taken to cultivate cinchona-trees in Bolivia, one of its native habitats, which have been very successful both as regards the number of young plants and the quality of bark they yield.

In the south of India, under the Government, near Ootacamund, in the Nilgiri Hills, as well as by private enterprise, very successful Cinchona plantations have been established. The species which preponderate in the Government plantations are *C. succirubra* and *C. officinalis*; *var. Ledgeriana* is also grown in this district, but is principally in private plantations, its bark rarely comes into the London market; a very large area is here under Cinchona cultivation.

In the North-east of India, among the Himalayas, at Rungbi, near Darjeeling, in Sikkim (Bengal Presidency), the plantations are also very successful. The trees number about 3,000,000, principally *C. succirubra* and *C. Calisaya*. Here a factory has been started for making the Cinchona febrifuge, a mixture of the crude Cinchona alkaloids. In the Punjab Himalayas attempts have likewise been made to cultivate the Cinchona.

In Ceylon, on the mountainous parts, 7,000,000 have been planted. They consist principally of *C. officinalis* and *C. succirubra*. They produce valuable quinine-yielding barks, and large supplies are imported.

In Jamaica, too, on the Blue Mountains, the Cinchona has been cultivated with success. The species, as in Ceylon, growing best, are *C. officinalis* and *C. succirubra*; *C. Calisaya, var. Ledgeriana*, is also being tried here.

The Cinchona is also being cultivated in British Burmah, Mexico, Trinidad, and latterly in Bolivia (p. 132).

Lately, the imports from the East Indies have been very large; since January 1st to July 31st (1885) the quantity offered for sale (and practically all sold) reaches the large total of—from Ceylon, 7,200,000 lb; East India, 361,200 lb.; Java, 88,300 lb., against, as stated, very small South American imports; nearly 1,000,000 lb. of Ceylon and East Indian bark were sold by auction at the London bark sales on August 11th, at firm prices, and finer qualities at some advance. The bark from cultivated Cinchonas is generally superior to that from natural trees. *C. Calisaya, var. Ledgeriana*, when cultivated, has yielded bark which, on analysis, gave 9·9 per cent. of quinine and 11·9 per cent. of total alkaloids, and some of this bark from Java has been sold in the Amsterdam market as high as 17s. per lb. The bark of *C. officinalis* is most improved by cultivation. As imported from South America, of late years it has been very poor, and contains principally the least valuable alkaloid, cinchonine. Cultivated, *C. officinalis* becomes a rich quinine-yielding species; it generally requires an altitude over 4,000 feet, and it comes to maturity in five to seven years. It does not grow well in Sikkim.

The cultivated Cinchona barks, to a great extent, retain the characters of their parent species, but, as some which come into the market are the products of hybrid plants, it is difficult at times to identify them. Being as yet from young trees, they are imported in quills, varying from a quarter to an inch and a half or more in diameter. *C. succirubra*, which grows at a low elevation —between 2,500 and 5,000 feet—yields the Indian red bark. Of this the largest quantity is imported, and it is most variable in character and quality; the dried bark of young trees and branches is thin, and is more wrinkled longitudinally than the other varieties, owing to contraction in drying; this young bark is often comparatively poor in quality. It attains its maximum yield of alkaloids when the trees are eight years old; then the quills are bold, and the warty character of the dark brownish, red-coloured, corky layer becomes marked.

C. officinalis produces the Indian pale bark in quills resembling the original Loxa bark, having a rough, much fissured, silver-grey exterior, often beset with large lichens, and has an inner surface bright or pale yellowish brown in colour.

C. Calisaya, which grows at an elevation between 4,200 and 5,000 feet, yields the Indian quill yellow bark, very like that from South America. The larger quills are often double, and rolled up from both edges. The easily detached outer coat has in many parts peeled off, showing the cinnamon colour of the middle layer.

In the Government plantations a system of "mossing," or covering up the stems of the trees with moss, is pursued, which improves the quality of the bark. Some of the above characters are not so evident on this bark as met with in commerce. Another process consists of removing the bark from the stem in strips, leaving alternate portions undenuded, and covering the denuded parts with moss; a bark renews under the moss which is richer in quinine than the original bark. At the end of six or twelve months the bands of bark left untouched are removed, and a system of alternate removal from one or the other portions of the trunk is carried on for years. The renewed bark commands a high price in the market. This process has been principally applied to the red and pale barks. The warty appearance of the outer surface of the red bark is still prominent on the renewed bark, and it is darker in colour than the renewed pale bark; the latter has more transverse cracks or fissures. The renewed barks are in flatter pieces and thinner than the natural, and are often twisted and recurved.

Much of the succirubra bark in Ceylon is now spokeshaved off without touching the cambium, and the denuded surface is covered with "mana" grass (*Andropogon Martini*), under which a bark, richer in quinine, renews rapidly. These "spoke-shavings," when bold, clean, and of fresh colour, are prized for druggists' purposes. Recent sales show that the Indian bark of *C. officinalis* is still most prized, that *C. Calisaya* is very disappointing, and that *C. succirubra* and its hybrids yield the largest supply, also that the renewed bark continues to be most valuable. In bales of renewed and partly-renewed barks of *C. officinalis* and *C. succirubra*, this mixture sold at nearly double the price of their respective natural barks. The brokers also say the quality and condition of Ceylon shipments have much improved this season (1885).

The species *C. succirubra* has proved to be the hardiest and most easily propagated, and, although on analysis the yield of cinchonidine and quinidine generally preponderates over that of quinine, yet the total yield—often 5 to 10 per cent.—of alkaloids from the bark of this Cinchona is very large. It is, therefore, a valuable bark for pharmaceutical purposes, and it is now official in place of yellow and pale bark for making the preparations into which these enter in the last British Pharmacopœia, as

Cinchonæ Rubræ Cortex, Red Cinchona Bark (*Off.*).

Dose.—5 to 60 grains.

The dried bark of the stem and branches of cultivated plants of *Cinchona succirubra*. *Off. Characters* are:—

"In quills, or more or less incurved pieces, coated with the periderm, and varying in length from usually a few inches to a foot or more,—the bark itself from about one-tenth to a quarter of an inch thick, or rarely more; outer surface more or less rough from longitudinal furrows and ridges, or transverse cracks, annular fissures and warts, and brownish or reddish-brown in colour; inner surface brick-red or deep reddish-brown, irregularly and coarsely striated; fracture nearly close in the smaller quills, but finely fibrous in the larger ones; powder brownish or reddish-brown; no marked odour; taste bitter and somewhat astringent."

These characters do not apply to the renewed bark or to that which comes from Ceylon, and is spoke-shaved off. Tested by official process, it should yield between five and six per cent. of total alkaloids, of which not less than one-half should consist of quinine and cinchonidine.

Preparations of Red Bark.

Decoctum Cinchonæ (*Off.*).—1 produces 16.

Dose.—1 to 2 ounces.

Elixir Cinchonæ.—See p. 168.

Extractum Cinchonæ Liquidum (*Off.*).

Dose.—5 to 10 minims.

Red Cinchona Bark in No. 60 powder, 20 ounces, is percolated with a mixture of distilled water 5 pints, hydrochloric acid 5 drachms, and glycerine 2½ ounces; the percolation is continued with distilled water until the bark is exhausted. The percolate is concentrated by evaporation, and adjusted in strength so that, after the addition of 12·5 per cent. of rectified spirit, it shall contain 5 per cent. by volume of total alkaloids. It thus makes an acid preparation of bark; 1 ounce equals about 1 ounce of bark. In the 1868 B.P. Extractum Cinchonæ Flavæ Liquidum, yellow bark, was percolated with cold distilled water *only*, the percolate concentrated to Sp. Gr. 1·2, and one-third its volume of rectified spirit added; it then had Sp. Gr. 1·1; a plain aqueous menstruum being used, it failed to exhaust the bark—even approximately.

Extractum Cinchonæ Rubræ Fluidum, U.S.

Dose.—15 to 60 minims.

One ounce=1 of bark, which is treated with a mixture of alcohol, glycerine, and water, and the percolate concentrated. This liquid extract has been much lauded in

America for giving drunkards a distaste for alcohol.—B.M.J. 1/80,271,681.

Infusum Cinchonæ Acidum (*Off.*).

Dose.—1 to 2 ounces.

Red bark ½ ounce in boiling distilled water 10 ounces, with aromatic sulphuric acid 1 drachm; infuse 1 hour and strain.

Mistura Ferri Aromatica (Heberden's Ink.)

Dose.—1 to 2 ounces.

Tincturæ Cinchonæ (*Off.*).

Red bark 1 in 5 of proof spirit.

Dose.—½ to 2 drachms.

Tincturæ Cinchonæ Composita (*Off.*).

Syn.—HUXHAM'S TINCTURE OF BARK.

Has now red *vice* pale bark 1 in 10.

Dose.—½ to 2 drachms.

Vin de Quinquina au Malaga (Codex).

May be made with red bark 3 parts in 100 of Malaga wine.

Dose.—1 to 4 drachms, is readily taken by children.

Cinchonina and Sulphate.—See pp. 138.

Cinchonidinæ Sulphas.—See p. 137.

Quinetum and Sulphate.—See Quinetum, p. 295.

Quinidiæ Sulphas.—See p. 296.

Quinina and Salts.—See p. 297.

As to the relative value of the Cinchona alkaloids, two Commissions, one in Bombay, the other in Madras, have reported that Quinine keeps its long-maintained and acknowledged supremacy. Next in value is Quinidine; then follow Cinchonidine and Cinchonine; of the last two, the former is preferable, but dearer, the latter being nauseous and liable to cause derangement to the stomach. The proper relative doses are of Quinine 3 grains, Quinidine 5 grains, and Cinchonidine and Cinchonine 7 grains each.—P.J. 1870,325; P.J. 1872,725; P.J. 1873,396.

CINCHONIDINÆ SULPHAS.

Cinchonidine Sulphate.

Syn.—Formerly termed QUINIDINE SULPHATE, or CHINIDIN SULPHATE, by German chemists.

Dose.—1 to 10 grains.

In silky white needles, generally smaller than sulphate of quinine, obtained from some cinchona barks. Although isomeric with cinchonine, its solution is lævogyrate to polarized light, like that of quinine, but it does not, like the latter and true quinidine, produce the emerald green colour with chlorine water and ammonia. The sulphate is soluble 1 in 50 of alcohol, 1 in 100 of water, rendered more soluble in water by addition of acid—a minim or more of diluted sulphuric acid to a grain—may be dispensed thus, or 5 parts with 1 of glycerine of tragacanth in pills. Taste, bitter.

Much less costly than quinine, and can be used with effect in doses of 1 to 5 grains as an antipyretic.—Pr. xvii.53.

In intermittent fever as much as 62 grains per day produced marked slowing of the pulse, without any convulsive action or symptom of intoxication, which it has been said to cause.—Pr. xxiv.375.

In intermittent fever 5 or 6 grains 4 or 5 times a day is most effective.—L. ii./81,1065.

Salicylate of Cinchonidine is useful as a tonic and antiperiodic in neuralgia, rheumatism, sciatica, &c., 5 grains every 2 hours in pills or wafer paper.—B.M.J. i./81,428.

CINCHONINA.

Cinchonine.

Dose.—1 to 10 grains.

An amorphous white powder, as met with in commerce, obtained from Cinchona barks, isomeric with cinchonidine, but solutions of its salts are dextrogyrate. Being insoluble in cold water, and requiring 2,500 of boiling water to dissolve it, it is almost tasteless, and is recommended in the following form as a tasteless febrifuge for children:—

Pulvis Cinchoninæ Compositus.

Cinchonine	12 parts.
Bicarbonate of Soda ...	1 part.
Sugar of Milk	60 parts.

Rub to a fine powder.

Dose.—3 to 12 grains, according to age.

Cinchoninæ Hydrochloras.

Dose.—1½ to 10 grains, or more.

In white acicular crystals, very like sulphate of quinine, very soluble in water and alcohol.

Cinchoninæ Sulphas (*Off.*).

Dose.—1½ to 10 grains, or more.

In hard, colourless, short rhombic prisms, with a vitreous lustre. Soluble 1 in 54 of cold water, 1 in 12 absolute alcohol. Cinchonine salts are much the cheapest of the alkaloidal salts of Cinchona. Their nauseous, bitter taste is objectionable. They are given in doses one-third larger than quinine and for the same purposes; as prophylactics some have thought them superior to quinine. The hydrochlorate is the salt most convenient for use. May be dispensed in aqueous solution, or in pills, 5 parts with one of glycerine of tragacanth.

COCA (*Off.*).

Syn.—Cuca.

Dose.—½ to 2 drachms.

The leaves of *Erythroxylon Coca*, a shrub cultivated on the mountains of Bolivia and Peru. They are one to two or more inches long, oval oblong, entire on the margin, usually blunt and emarginate, with a small apiculus in the notch at the apex; rather thin, smooth, with a prominent midrib, and on each side a curved line running from the base to the apex. They have a slight odour of tea, and a somewhat bitter, aromatic taste; in colour, they vary from a pale green to a dull brownish-olive; in selecting them, care should be taken that they have not fermented. The uses of the Coca leaf in Bolivia and Peru have been described by many travellers who have seen it chewed. From 2 to 8 drachms or more daily is used, in conjunction with the ashes of a plant or with lime, as a remedy for, or preventive against, the effects of extraordinary physical exertion, to relieve the difficulty of respiration in ascending mountains, and to appease hunger, thirst, and fatigue. They are said to be most active when freshly dried, and are much used by the native Indians, miners, travellers, and others. The leaves contain a crystalline alkaloid, Cocaine.—See p. 142.

Extractum Cocæ Liquidum (*Off.*).

Syn.—EXTRACTUM ERYTHROXYLI FLUIDUM, U.S.

Dose.—½ to 2 drachms.

Coca leaves are exhausted by percolation with proof spirit, the second part of percolate concentrated and dissolved in the first portion, and the strength adjusted so that 1 ounce = 1 of leaves; is about one-sixth the dose of the French nostrum mentioned below.

In *dried* Coca leaves, the alkaloid seems to exist in the state of an inert salt (like much of the cinchona alkaloids in bark). The Indians always chew it with lime or plant ashes, which isolates the Cocaine; it is probable, therefore, that galenical preparations of dried leaf do not exhaust it of the alkaloid, the aid of an acid or an alkali being necessary. The following imported extract of the *fresh green* leaves is active.

Extractum Cocæ is imported from South America. Prepared from the green leaves.

Dose.—5 to 15 grains, in pills or pastils.

As Coca leaves lose much of their virtue by keeping, this and the next following are the best pharmaceutical preparations of it.

Pastillus Cocæ Extracti.—2½ grains of the extract in each.

Dose.—One every two or three hours.

Coca pastils are good; cocaine cured case of asthma of 15 years' standing; recommended for hay-fever, spasmodic asthma, and post-nasal catarrh.—M.T.G. ii./85,320.

A **Wine of Coca**, containing about 1 in 30—*dose*, a wineglassful—and a **Liquid Extract**, and an **Elixir**, about 1 in 6—*dose*, 1 to 4 drachms—are prepared as French nostrums.

The leaves are chewed to appease hunger and support strength, in the absence of food, and used generally for the stimulant and narcotic effects of tobacco and alcohol. —Pr. xvi.467.

Coca-leaves as an inhalation or smoked in a pipe, have a decided effect on bronchial spasm.—L. i./76,520.

Is of use to steady the nerves of excitable persons—to a sportsman in shooting, for example; to give endurance, is used by travellers in Bolivia and Peru, and to counteract the effect of rarefied air on mountains.—L. ii.76,449.

Historical and botanical account of the plant and its uses; the result of a series of experiments on its use, was most unsatisfactory, although the drug was given in every variety of ways, under all circumstances and at all hours of the day.—L. i./76,631,664.

Two ascents of Ben Voirlich, under the influence of, respectively, 60 and 90 grains, done with ease by Sir Robert Christison. By the use of Coca hunger and thirst are suspended, but eventually appetite and digestion are unaffected; the mental faculties are not affected after great bodily fatigue, except by freeing them from dulness and drowsiness.—B.M.J. i./76,527; P.J. 1876,883.

Twelve athletes, during a game, chewed, without lime or ashes, from 60 to 90 grains; at first in some, dryness was felt, and relieved by washing the mouth; then followed a feeling of invigoration, so that fatigue was wholly or in great part resisted; the pulse increased in frequency, and perspiration augmented. Save exhilaration of spirits, no mental effects were noticed or disagreeable effects realized.—P.J. 1877,221.

A party climbing Mont Blanc, each chewing 80 grains of Coca during ten hours, were much relieved from thirst by its use. They drank no water, tea, or coffee, and but a limited amount of wine, yet Coca enabled them to make the trip with comparative comfort.—M.T.G. ii./82,165.

It enables a greater amount of fatigue to be borne with less nourishment, and lessens the difficulty of respiration in ascending mountain sides. Tea made from it has much the taste of green tea, and is much more effectual in keeping people awake.—Markham's Peruvian Bark, p. 152.

In France, Bouchardat states it has rendered most valuable therapeutic service, almost equal to cinchona bark. It is a stimulant to the nervous and muscular systems, and ranks with tea and coffee; it prevents the rapid waste of tissue, and enables the consumer to go a long time without food.—B.M.J. i./76,486.

Use in walking feats.—B.M.J. i./76,335,361,387,518, 519,750,752.

The leaves are neither nutritive nor tonic; it is in their anæsthetic properties, developed by chewing the leaves with lime or plant ash, the Indian finds the numbing effect on the mucous membrane of the stomach that he seeks.—P.J. 1885,266.

Cocaina, Cocaine.

Dose.—$\frac{1}{10}$ to 1 grain, in a pill.

This now important alkaloid was first isolated by Niemann in 1860. From analysis he gave it the formula of $C_{32} H_{20} NO_8$ (old notation), but Lossen in 1862 assigned it the now accepted formula of $C_{17} H_{21} NO_4$ (new notation). It has a bitterish taste, and crystallizes in small shining monoclinic prisms. It requires 700 or more parts of water to dissolve it, it is more soluble in alcohol, freely so in chloroform, ether, oil of cloves, and many other volatile oils, and 1 in 10 respectively of melted vaseline and castor oil, and other fixed oils. The latter solutions have proved serviceable in eye cases. Manufacturers inform us that good Coca leaves yield 0·5 per cent. or more of Cocaine, but the average is less, if fermented—often *nil.* Cocaine seems to be very sensitive to chemical and physical action, and readily yields derivatives. The dried leaves are also said to contain Hygrin, a volatile principle, with Ecgonine, Coca-tannin, and Coca-wax. Ecgonine (together with benzoic acid and methyl-alcohol) may also be obtained as a derivative from Cocaine when the latter is heated with hydrochloric acid.

As pure Cocaine (the alkaloid) is soluble in fats and oils, and its salts are not, it should always be used when it has to be combined with fatty or oily substances, for use externally, *e.g.*:—

Bougies of Cocaine. $\frac{1}{2}$ grain in each or more, with cacao-butter.

Are useful in painful affections of the urethra.

Ceratum Cocainæ. 1 in 30 of petroleum cerate.

Is useful in burns, scalds, urticaria, pruritus, &c.

Collodium Cocainæ. 2 per cent. in flexible collodion.

Allays the itching, and is a cure for inflamed chilblains.

Oleatum Cocainæ.

A saturated solution of the alkaloid in oleic acid; heated, one part will dissolve in two parts of oleic acid; it may be further diluted with oleic acid or oil. Has not proved so satisfactory a preparation as

Oleum cum Cocainâ.

A 2 per cent., more or less, if ordered, in almond oil, is mostly used. This is useful for earache. For the eye, solutions in castor oil and olive are used; for catheters, a solution in equal parts castor and almond oils does well; it is viscid, and does not crystallize in winter.

Suppositories and **Pessaries of Cocaine** have ½ grain (or more, if ordered) in each with cacao-butter.

Tabellæ Cocainæ, Cocaine Tablets. $\frac{1}{20}$ grain in each, with chocolate.

Dose.—1 every half-hour or hour. Useful for sea-sickness, chloroform or alcohol sickness, sickness of pregnancy, &c.

Unguentum Cocainæ. 1 in 30 of lard (more or less, if ordered).

Useful where absorption is required, as in facial neuralgia, shingles, eczema, erysipelas, urticaria, and pruritus.

Vaselinum Cocainæ. 4 per cent. (more or less, if ordered).

Suitable for the eye; is very bland; also for smearing catheters, burns, scalds, &c.

Cocainæ Citras, Citrate of Cocaine.

Dose.—$\frac{1}{5}$ to 1 grain or more.

Is in deliquescent small white crystals; used by dentists.—See p. 147.

Cocainæ Hydrochloras (*Off.*).

Off. Dose.—"$\frac{1}{5}$ to 1 grain," but less and more may be given, in aqueous solution.

This salt has been most used: it appears to be a dry white granular powder, which in reality consists of crystals of slender white needles, usually having a slight aromatic ethereal odour. Its action on the tongue and mucous surfaces is more intense than that of the pure alkaloid. It is soluble in half its weight of water, and freely soluble in spirit and glycerine; insoluble in ether, fats, and oils, and therefore incompatible with them. Ignited in the air, it burns without residue. Its aqueous solution gives a white precipitate with carbonate of ammonium, soluble in excess. It is an antiseptic, a five per cent. aqueous solution delays the putrefactive changes in an extract of meat; yet fungi occasionally grow in its aqueous solutions. If the cocaine salt be dissolved in a 1 per cent solution of boric acid, it is said all tendency to grow fungi is checked.

Buginaria Cocainæ Hydrochloratis, NASAL BOUGIES OF HYDROCHLORATE OF COCAINE.

One-sixth of a grain in each with gelato-glycerine basis. Useful in hay fever.

Injection Cocainæ Hydrochloratis Hypodermica. 1 in 20.

Dose.—2 to 10 minims.

Lamellæ Cocainæ, Discs of Cocaine (*Off.*).

Discs of gelatine, each containing $\frac{1}{200}$ grain of hydrochlorate of cocaine.

Liquor Cocainæ Hydrochloratis. 4 and 20 per cent.

For ophthalmic use, &c.—See above.

Pastillus Cocainæ Hydrochloratis. $\frac{1}{20}$ grain in each.

Useful in allaying irritation of the throat and hoarseness. They invigorate the vocal organs of singers and public speakers.

Pilula Cocainæ Hydrochloratis. $\frac{1}{5}$ grain in each (or more, if ordered), with sugar of milk and syrup *q.s.* to make a grain pill.

Tabloids of Hydrochlorate of Cocaine. $\frac{1}{10}$ and $\frac{1}{6}$ grain each.

Are prepared for hypodermic injection.

Cocainæ Salicylas.

Dose.—$\frac{1}{5}$ to 1 grain or more.

Is in minute snow-white crystals, and is recommended for the use of oculists, as it forms a solution which keeps well.

Cocaine and its salts, although selling at one time as high as 3s. 6d. per grain, are now reduced to a moderate price.

The curious property cocaine possesses of producing local anæsthesia was even noted by the discoverer of the alkaloid—Niemann, who, so far back as 1860, wrote: "It produces temporary insensibility on the part of the tongue with which it comes in contact." (Watts's Dictionary, i. 1059, *ex* Ann. Ch. Pharm. cxiv. 215.) This interesting fact seems to have lain dormant for 24 years, until about a year ago, when Herr Koller, a medical student in Vienna, was led to test the local anæsthetic action of the hydrochlorate of the alkaloid, on account of the effect he had witnessed when cocaine in solution was pencilled upon the pharynx to render it less susceptible in laryngoscopic examination. A vial of the solution was given by Herr Koller to Dr. Brettauer, of Trieste, who, on Sept. 15th, 1884, demonstrated its properties at the meeting of the Ophthalmological Congress in Heidelberg. Several experiments were made with the two per cent. solution, which showed that when two drops of the liquid were placed upon the surface of the normal cornea, and the application repeated after an interval of ten minutes, at the end of ten minutes more, the sensibility of the cornea was so far diminished that it could be pressed with a probe; the cornea and the surface of the eyeball and eyelids adjoining could be rubbed; a speculum could be inserted and the lids widely separated, and the conjunctiva could even be seized with fixation forceps, and the eye moved in various directions without causing the patient notable discomfort.

Besides rendering the superficial structures of the eye anæsthetic, it is a mydriatic, and paralyses the accommodation, which passes off sooner than the dilatation of the pupil, this does not at longest last more than twelve hours. The sensitiveness of the iris is less affected than that of the surface of the eye. The great excellence of cocaine consists in the limitation of its action to the tissues to which it is applied. No doubt other symptoms at a distance do result from the external application of the anæsthetic, but they are, for the most part, insignificant and by no means dangerous. In some measure cocaine may be compared with curare. The one agent paralyses the termination of the sensory nerves, whilst the other paralyses the termination of the motor nerves. Aconite would seem to act in a manner the very reverse of cocaine. When applied to a mucous membrane, it has probably a constricting action on the vessels, produces a blanching of the part, and simultaneously a deadening of the nervous excitability which passes into a complete state of anæsthesia; this effect, however, does not sink deeply into the adjacent tissues, nor does it last long. This surface application is sufficient to render painless the use of a caustic, the passage of catheters and lithotrites, or the performance of operations which do not involve the more deeply-seated tissues. Such operations as the opening of abscesses and buboes, the removal of small tumours, require the surface anæsthesia to be supplemented by two or more hypodermic injections of a quarter of a grain in each of the hydrochlorate in close contiguity to the part to be operated on. Injected hypodermically, the aqueous solutions of its salts deaden sensibility around the puncture, so that the deep prick of a pin is not felt—the surrounding part is reddened, but after thirty minutes it resumes its normal condition. Although solutions of it are little absorbed by the skin,—even a chloroform solution is scarcely at all absorbed,—yet the application of an ointment of the pure alkaloid made with lard or an oily solution to a surface will remove the pain of inflammation, as in eczema or erysipelas, or the pain of facial neuralgia or shingles, and the irritation of urticaria or pruritus. Burns and scalds should first be brushed over with a 4 per cent. aqueous solution of the hydrochlorate, and the pure alkaloid, combined with carron oil (Linimentum Calcis), petroleum cerate, or boric acid ointment, afterwards applied on cotton wool or lint. Combined with boric acid ointment, also, it may be used for fissured nipples, or for these and stings and bites of insects an aqueous solution may be applied. The irritability of inflamed mucous surfaces, as in hay fever, influenza, coryza, bronchitis, spasmodic asthma, laryngitis, and pharyngitis, is much relieved by the spray of a watery solution of a cocaine salt. In obstetrics, its local application relieves the pain of the dilating os uteri and diminishes the sensibility of the perinæum whilst being dilated in first labours; rents of the perinæum may be stitched up almost painlessly under its action, and under its influence many minor gynæcological operations are much facilitated by the ability to insert needles and make small incisions without pain. The spasmodic and painful affections of the vagina, causing dyspareunia and vaginismus, may be minimised, by vaginal injections of a quarter of a grain of cocaine in 1 per cent. oily solutions. In dentistry, it is useful in toothache; it deadens the sensibility of exposed pulp. The pure alkaloid is preferable to the salts for this purpose, because, being less soluble in water, it is less liable to be washed away by the saliva. If a little be inserted in the cavity of a carious tooth and covered with a plug of mastic solution, all pain is obtunded for a considerable time. A strong solution in oil of cloves is also useful. In preparing the cavity, previous to filling, the sensitiveness of the dentine is more effectively treated by using a salt of cocaine—either the hydrochlorate or citrate; the latter has been recommended, as it can be formed into a pellet with the fingers and pressed into the cavity, but it is not so rich in true alkaloid as the hydrochlorate; yet, either of these is absorbed more quickly than the alkaloid itself, which, as before said, is more suitable for plugging a cavity for some length of time. Before using arsenical paste to destroy the nerve when exposed, if about a quarter of a grain of a cocaine salt be inserted into the cavity, after partially clearing, it will anæsthetize the pulp in about five minutes, and enable the operator thoroughly to open the cavity and expose the pulp directly to the action of the arsenical paste without pain to the patient. In extraction, it is not of much service; if a 50 per cent. aqueous solution of the hydrochlorate be painted on the surrounding gum, the first pain of inserting the forceps is lessened, but the other parts affected by the operation are too deeply-seated to become anæsthetized. The eye, ear, throat, mouth, tongue, pharynx, nose, larynx, trachea, urethra, vagina, os uteri, anus, rectum, and, in fact, the whole mucous membrane, as well as cut surfaces and open sores, are affected by it, and the true skin less so.

Solutions of hydrochlorate of cocaine have been employed topically in excision of the tonsils, cauterizing the terminal bone of the nose, painting chancres previous to the application of nitric acid or other caustics, opening abscesses, removing polypi, and many cases of iridectomy and operation for cataract, squint, and removal of foreign bodies from the eye. For the eye an aqueous solution of the hydrochlorate of cocaine of 2 to 4 per cent. is generally used, and a 4 to 20 or even 50 per cent. for other purposes; of the weaker solutions it is necessary to repeat the application three to five times, at intervals of three to five minutes. At a discussion on Anæsthetics at the Medical Society (L. ii./84,957), a speaker advocated the use of the strongest solution. No injurious effects, either local or constitutional, seem to follow its use. Its action commences in three minutes, increases from ten to twenty minutes, and mostly disappears within half an hour.

Equal parts of an 8 per cent. solution and liquor atropinæ sulphatis form an effective remedy for all painful and inflamed conditions of the eye; and half a grain of pilocarpine nitrate added to 1 drachm of a 4 per cent. solution produces anæsthesia without in the least disturbing the accommodation.—Whitla.

As regards the toxic properties of cocaine, its effects appear to be mild and not cumulative. It causes cessation of respiration,—small doses have an exhilarating effect on the nerve-centres and other parts of the nervous system. In a case of attempted suicide by an apothecary, a dose of 1·5 grammes (23 grains) seemed to have no seriously injurious effect.—Varge's Zeitschr, v.f. 11, 5, p. 222, 1863.

By physiologists, it had been supposed that cocaine would have properties allied to, if not identical with, caffeine, theine, or theobromine, in the manner that these themselves are allied (see p.101). But, chemically, cocaine is quite distinct; it is much less soluble in water than caffeine; it is a strong base, which caffeine is not, and its chemical constitution and derivatives are quite distinct from those of caffeine. As a medicine, coca has been more used in France and America than in England. In Vienna, cocaine has been recommended for use internally in cases of great exhaustion, such as loss of blood, sunstroke, or diarrhœa, also by mouth or hypodermically as a cure for morphine and alcohol craving. Morphine and cocaine appear to be mutually antagonistic. Cocaine has been used in some cases of melancholia and insomnia; it also possesses aphrodisiac properties. It was likewise found to lessen the desire for sleep and feeling of hunger, and to be a stimulant which quickly increases and sustains, in a harmless manner, the physical powers of the body, such as are required in long marches, mountain ascents, &c., in dose of ¾ to 1½ grains.

Cocaine is a stomachic, useful after excess either in eating or drinking, in sea-sickness and vomiting of pregnancy; it also improves the condition of the stomach in atonic indigestion and nervous affections of this organ, as well as in phthisis and cachectic cases, especially those arising from the use of mercury.

References.

Cocaine is a mydriatic; slightly raises the temperature, quickens respiration, and pulse is more frequent; by long use, sleep is longer and more profound. Improves nutrition, useful in insomnia and simple melancholia.—M.R. 1883,86.

Eleven successful cases, including three of operation for cataract, one double iridectomy, one removal of tumour from lid, and three for convergent strabismus. In cases of intolerance of light it acts like magic.—L. ii./84,911.

In papillomata of larynx, interior painted with twenty per cent. solution of hydrochlorate of Cocaine once, in five minutes was able to introduce the forceps four times and remove large portions of tumours without patient experiencing any pain or subsequent shock.—L. ii./84,912.

Physiological effects on the eye.—L. ii./84,911.

Seven eye cases under its influence.—Med. Rec. (N.Y.) 1884,510.

Use in the nasal cavity, cotton wool soaked in 2 per cent. solution applied at the end of a probe in over forty cases, including hypertrophy of the nasal mucous membrane (twenty-seven cases cauterized), acute coryza, nasal polypus and hay fever, all having marked swelling of the nasal mucous membrane, both from chronic and acute causes; in every case there was complete subsidence of the turgescence of the membrane and the sinuses were emptied of their blood.—Med. Rec. (N. Y.) 1884,533.

Cocaine solution applied to a blistered surface anæsthetizes the part.—B.M.J. i./85,300.

Solution painted on or injected into piles relieves the pain of operating on them.—B.M.J. i./85,227.

References to its surgical use as a local anæsthetic:—L. ii./84,608 (ophthalmic), 683 (ophthalmic), 936 (laryngeal), 975 (ophthalmic), 975 (nasal), 992 (ophthalmic), 1022 (physiological action), 1023 (ophthalmic and aural), 1068 (ophthalmic), 1097 (ophthalmic), 1123 (ophthalmic and dental), 1167 (circumcision and catheter passing); L. i./85,86 (uterine, vaginal, and oral), 123 (in tenesmus), 130 (on mucous membranes), 168 (dental), 220 (rectal), 226,315 (minor surgery), 965 (ophthalmic), 1033 (fistulas, canals), 1067 (ophthalmic), 1097 (nasal), 1112 (ophthalmic); B.M.J. ii./84, 761 (ophthalmic), 1074 (laryngeal), 1132,1142,1143,1249,1256 (ophthalmic), 1133 (dysphagia), 1188 (throat and nose), 1255 laryngoscopic), 1256 (midwifery and tinnitus); B.M.J. i./85,45,77,134,145,863 (effects on the eye); B.M.J. i./85,24,36,77,235,286,456,792,1266 (ophthalmic surgery); B.M.J. i./85,36,47,209,456,479 (nose and larynx); B.M.J. i./85,377 (cancer); B.M.J. i./85,227, 653,994 (rectal operations); B.M.J. i./85,17,36,47, 361,994 (vagina and urethra); B.M.J. i./85,17,24, 36,69,736,926 (in dentistry); B.M.J. i./85,402 (for scalds); B.M.J. ii./85,396 (tumour of lip removed).

Translation of Carl Koller's report of the earliest observations on the use of cocaine and its salts as local anæsthetics.—L. ii./84,990.

Hydrochlorate of cocaine, 20 per cent. solution allowed nitric acid to be applied without pain.—L. ii./84,1023.

In skin diseases, relieves the inflammation in eczema and acne and the irritation of urticaria.—L. i./85,76.

Fungoid growths in aqueous solutions of salts of cocaine and other alkaloids.—L. i./85,224,315,504, 597,647.

Physiological action.—L. i./85,439.

Summary of its pharmacy.—L. i./85,488.

Checks hæmorrhage from lips and gums in purpura. —L. i./85,581; Pr. xxxiv.450.

Hay fever relieved by solution applied locally to nose and eyes.—L. i./85,925; L. ii./85,50,99,123,232; B.M.J. i./85,1084,1291.

For moles, warts, &c., about 6 grains of cocaine to a drachm of nitric acid applied once or twice a day with the point of the rod of an acid bottle is painless; a ring of melted wax should be put round the mole first.—L. i./85,1052.

Sea sickness, acts as a prophylactic to, in dose of $\frac{1}{16}$ grain every two hours.—L. ii./85,451.

Résumé of action and uses.—B.M.J. ii./84,1081, 1132; B.M.J. i./85,36; Pr. xxxiv.56.

Physiological experiments on animals.—B.M.J. ii./84, 1313; B.M.J. i./85,17,97,863.

In senile gangrene, the intense pain of, relieved by a 4 per cent. solution on contiguous parts.—B.M.J. i./85,653.

In coryza, 4 per cent. solution useful applied on cotton wool.—B.M.J. i./85,430,1084.

The mydriatic effects on the iris, and on the tension of the eyeball, caused by its local application.—B.M.J. i./85,1303.

The painless removal of urethral caruncles.—B.M.J. ii./85,153.

In obstetrics, several valuable applications.—Pr. xxxiv.65.

The oleate is useless, except for sores on penis and anus.—Pr. xxxiv.451.

Hypodermic injections apt to be followed by faintness. —Pr. xxxiv.450.

Gonorrhœa, acute, 2 per. cent. solution injected relieves the pain.—Pr. xxxiv.222.

Rectal and prostatic pains relieved by ½ grain suppositories.—Pr. xxxiv.128.

Summary of its effects on the eye, viz., dilatation of pupils, constriction of small peripheral vessels, paralysis of accommodation, and enlargement of the palpebral fissure; the effect is local only, by paralysing the endings of the sensory nerves, and irritating the sympathetic nerves.—Pr. xxxiv.1.

Dysmenorrhœa, the pain of, removed by painting the cervix with 4 per cent. solution.—B.M.J. ii./85,399.

After lithotrity, ½ an ounce of 4 per cent. solution injected for painless removal of fragments.—Pr. xxxiv.128.

In labour, pain attending the dilatation of the os in primiparæ relieved by painting the os and cervix with 12 per cent. solution.—B.M.J. ii./85,473.

In supra-orbital neuralgia, a 10 or 20 per cent. solution in oil of cloves rubbed into the part affords immediate relief; with summary of its medical uses.—Pr. xxxiv. 59; M.R. 1884,516.

In sea sickness, several cases, $\frac{1}{16}$ grain doses every two or three hours in aqueous solution were successful. A girl of 18 had been sick 24 hours before it was tried; she had a double dose every half-hour with "truly magical effect."—L. ii./85,451.

CODEINA.

Codeine.

Dose.—¼ to 2 grains.

An alkaloid from opium, generally in large prisms slightly brownish in colour. Soluble 1 in 80 to 100 of water, very soluble in diluted acids, in alcohol, and in excess of aqueous ammonia, but insoluble in excess of potash solution. It is a methylic ether of morphia,—monomethyl-morphia,—and has been synthetically prepared from it by the action of iodide of methyl and alcoholic caustic soda solution. It has a slightly bitterish taste. In moderate doses is a hypnotic, and in small doses frequently it allays cough in phthisis. In diabetes it lessens the amount of sugar in the urine. For hypodermic injection **Phosphate of Codeine,** which contains 70 per cent. of alkaloid, and is soluble in 4 parts of water, is the most suitable salt.

Codeine and Glycerine Jelly (S. Hardwick).

Dose.—1 drachm.

Codeine	72 grains.
Citric Acid	720 grains.
Refined Gelatine	6 ounces.
Glycerine	36 ounces.
Oil of Lemon	1 drachm.

Balsam of Tolu and Distilled Water, of each *q.s.*

Boil the Tolu in water as ordered in B.P. for making syrup of tolu; of the liquor so prepared take 30 ounces; in 25 ounces of it soak the gelatine, heat till it is dissolved, and add the glycerine. In the remaining 5 ounces of liquor dissolve the Codeine and citric acid, add the solution to the above, add also the oil of lemon, stir well together, and pour into bottles to "set." Useful in chronic laryngitis, phthisical cough, &c. — B.M.J. i./84,761.

Pilula Codeinæ Composita.

Codeine ... ... (increased to 2 grains if necessary).	¼ grain
Extract of Nux-vomica ...	½ grain.
Extract of Lettuce ...	3 grains.

Make one pill, to be taken two or three times a day, for diabetes.

Syrupus Codeinæ.

Codeine	1 grain.
Diluted Phosphoric Acid	2 minims.
Distilled Water	8 minims.

Dissolve and add

Syrup to	1 ounce.

Dose.—A teaspoonful for coughs.

Trochisci Codeinæ contain an eighth of a grain in each.

References.

Sleep produced by it is not followed by the heaviness of that from morphine.—L. i./66,250.

Syrup useful in troublesome cough, especially phthisical.—B.M.J. i./79,546; Pr. xxiv.447.

In diabetes, doses of ¼ to ½ a grain three times a day at first, the dose being increased gradually until sugar disappeared from the urine, or increasing drowsiness demanded its discontinuance.—B.M.J. ii./81,474.

In diabetes considered to be of greater service than the other constituents of opium, as it does not produce the same narcotic effect as opium and morphia.—Guy's Hosp. Rep. xv.420.

Diabetes mellitus, 3 cases recorded with marked improvement. Codeine should be given at once, and in fairly large doses, until some physiological effect is produced. Even dieting appears to sink in significance by the side of Codeine.—B.M.J. i./82,933.

In bladder troubles, complicated with enlarged prostate, Codeine is a useful sedative when other opiates fail.—B.M.J. i./84,802.

COLCHICIN.

Dose.—$\frac{1}{32}$ grain in a pill.

The active principle of the meadow saffron, *Colchicum autumnale.* An amorphous yellowish powder, does not combine with acids except tannic acid, is soluble in alcohol and chloroform, less so in ether and water. Of use in acute gout, rheumatic gout, asthma, cerebral congestion, and uræmia.

In chronic rheumatism, apply hypodermic injections of doses of $\frac{1}{32}$ grain in 15 minims of water.—M.T.G. 1/77,463.

In neuralgic joint affections, and rheumatic ischiagra, $\frac{1}{32}$ gr. hypodermically injected succeeded.—Pr. xxiii.458.

Toxicological action—it affects the gastro-intestinal mucous membrane, causing severe pains in the bowels, of the nature of colic, vomiting, diarrhœa, intense thirst, and violent burning in the throat, œsophagus, and stomach.—B.M.J. ii./79,1024.

Preparation of, and chemical properties.—P.J. 1881, 498.

COLLODIUM.

Collodion (*Off.*).

Syn.—CONTRACTILE COLLODION.

Pyroxylin 1, Rectified Spirit 12, and Ether (Sp. Gr. 0·735) 36. Pure ether answers better.

Preparations.

Anodyne Colloid.

Syn.—AMYL COLLOID.

Hydride of Amyl*	1 ounce.
Aconitina	1 grain.
Veratrina	6 grains.
Ethereal Collodion to	2 ounces.

For neuralgia, sciatica, lumbago, all muscular pains, &c. The amyl by its rapid volatilization often produces almost instantaneously the desired result; but should the pain continue the alkaloids can be brought into activity by applying a piece of moist spongio-piline over the collodion film.—B.M.J. ii./72,677.

Collodium Cocainæ.—See p. 142.

Collodium cum Oleo Crotonis.

Croton oil 1 part mixed with 7 parts, more or less as required, of Flexible Collodion, forms a useful counter-irritant; a thin layer painted on quickly dries, and its action is limited to the spot to which it is applied.

Collodium Flexile (*Off.*).

Contractile Collodion 1 ounce, Canada balsam 20 grains, castor oil 10 minims; makes a more elastic film than Contractile Collodion.

Collodium Iodi.

30 grains of Iodine, more or less if required, to the ounce of Flexible Collodion, forms a coating which, on account of the iodine not being so readily volatilized as from an application of the liniment, sustains the action of the iodine and the film protects the part.

Collodium cum Iodoformo.—See Iodoform, p. 212.

Collodium Salicylicum.

Salicylic Acid	100 grains.
Flexible Collodion, $\frac{3}{4}$ strength	1 ounce.

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* Practically these ingredients will not blend; if 3 drachms of Hydride of Amyl only be used, and a collodion made with about one-half its quantity of pyroxylin be added to make up the measure to 2 ounces, a satisfactory preparation is produced. RHIGOLENE may be used, *vice* Hydride of Amyl. It is a crude Hydride of Amyl, obtained by the repeated distillation of petroleum spirit (is the lightest liquid hydrocarbon known; has Sp. Gr. 625, boiling point 86° F.). It is very inflammable; can be inhaled without irritation, and will produce general anæsthesia; locally, it is not absorbed, but rapidly freezes the part.—L. i./85,75,101.

Dissolve; for use on exposed parts like the next preparation.

Collodium Callosum.

Salicylic Acid	60 grains.
Extract of Indian Hemp	8 grains.
Flexible Collodion, $\frac{3}{4}$ strength	1 ounce.

Dissolve. Applied daily, this forms a rapid and painless solvent for corns and warts.—L.ii./83,951; B.M.J. ii./83,1071.

The following more active preparation is similarly used; both preparations have proved useful in epithelioma.

Collodium Salicylicum cum Zinci Chlorido.

Salicylic Acid	60 grains.
Chloride of Zinc	30 grains.
Collodion	1 ounce.

Dissolve, forms a clear solution. 1 of Chloride of Zinc forms an imperfect solution in 6 of Collodion (with some chemical change probably).

Collodium Stypticum.

Syn.—**Styptic Colloid.**

Tannic Acid (soluble)	10 parts.
Rectified Spirit	10 fluid parts.
Benzoin	1 part.

Dissolve, strain, and add

Ether, Sp. Gr. 0·720	40 fluid parts.
Gun Cotton	2 parts.

Mix, set aside two or three days, and decant.

Forms a useful application in checking various forms of hæmorrhage when it can be brought in contact with the bleeding surface.

Collodium Vesicans.—See Cantharis, p. 113.

CONINA.

Conine.

Dose.—$\frac{1}{4}$ grain, increased gradually to 2 grains.

A liquid alkaloidal principle, almost colourless, and having a penetrating empyreumatic odour, obtained from hemlock, *Conium maculatum*. It is slightly soluble in water.

Coninæ Hydrobromas.

Dose.—$\frac{1}{3}$ grain, increased gradually to 2 grains.

In colourless crystalline prisms, resembling sulphate of magnesia in appearance. Soluble 1 in 8 of water.

Injectio Coninæ Hydrobromatis Hypodermica.

Hydrobromate of Conine ...	1 grain.
Distilled Water	20 minims.

Dose.—1 to 3 minims.

Pessus Coninæ (Hosp. for Women).

Conine	½ minim.
Gelatine Mass	20 grains.

Make one pessary.

Pilula Coninæ Hydrobromatis.

Hydrobromate of Conine ⅓ grain in each.

Vapor Coninæ (*Off.*).

Juice of Hemlock	½ ounce.
Solution of Potash	1 drachm.
Distilled Water	1 ounce.

Put 20 minims on the sponge of a suitable apparatus to inhale.

References.

Conine is most suitable in acute mania without organic brain disease, ½ minim of Conine given hypodermically is equal to one drachm Succus Conii.—Rank. ii./72,119, *ex* West Riding Lunatic Asylum Med. Rep. vol. ii.

Hydrobromate of Conine is useful in neuroses and spasmodic affections of chronic bronchitis.—Pr.xxiii. 202,212.

In epilepsy, dose of ¼ to 1½ grains recommended.—L. ii./84,32; Pr. xxxii.431.

Physiological action of the colourless Hydrobromate is like that of curare, but it does not act at all on the central nervous system like commercial liquid Conine; the latter contains two alkaloids.—L. ii./80,778.

Large doses, 2 to 4 drachms, of Succus Conii useful in Chorea.—L. i./83,905.

Hydrobromate of Conine acts chiefly as a direct sedative to the respiratory centre; in poisonous doses death is caused by asphyxia. It is employed with advantage in all spasmodic affections, especially those of the respiratory organs; and in neuralgia commence with 1½ grain but not exceed 4½ grains per 24 hours.—Pr. xxviii.136.

CONVALLARIA MAJALIS.

Lily of the Valley.

The flowers, as well as the whole plant of this, form an old remedy for dropsy in Russia. In functional and organic disease of the heart, an infusion of 10 grains in 6 ounces of water, of which half an ounce twice a day for two or three days lessens the irritability and peevishness. The effect will continue for from 5 to 9 days without producing dyspnœa or palpitation. Under this treatment the patient can take bodily exercise without discomfort.—Edin. Med. Jour. xxvii.645; P.J. 1883,1058.

Two glucosides have been obtained from the plant: convallarin, convallamarin, and a principle found in the flowers only.

Convallarin, a pale brownish white powder, soluble in alcohol, but insoluble in water; in dose of 3 or 4 grains, only has a purgative effect.

Convallamarin.

Dose.—$\frac{1}{2}$ to 2 grains.

A pale, whitish brown amorphous powder, soluble in water and alcohol; is said to contain the active properties of the drug. It acts principally on the heart. Physiologically its action approaches that of digitalin, helleborin, &c. Death is produced by stoppage of the heart, and nearly always accompanied by intense clonic convulsions.—P.J. 1882,423.

Convallamarin is the most active preparation; only one dose should be given daily, on account of its cumulative action; it probably acts directly on the muscular tissues of the heart, more slowly than digitalis, but is more persistent in its influence; is contra-indicated in advanced heart disease where the muscular structure is altered.—L. ii./84,418.

Extractum Convallariæ.

Dose.—2 to 8 grains.

An aqueous extract of flowers and stems, with one-third of roots and leaves, is said to be most active.—P.J. 1883,143.

Extractum Convallariæ Fluidum.

Dose.—2 to 10 minims; 1 = 1 of flowers.

Tinctura Convallariæ.

Dose.—5 to 30 minims; 1 in 8 of proof spirit.

Convallaria is a powerful diuretic, irregularity of heart's action is lessened, used in mitral and aortic regurgitation, dilatation of the heart, senile hypertrophy, chronic pericarditis, anæmia, and diabetes.— L. ii./82,327.

In all forms of heart failure it is useful, and has none of the nauseating effects of digitalis. It promotes a stronger ventricular contraction, and does not exhaust the contractility of the heart and arteries.—L. i./83, 185.

Editorial Notes on.—It exerts no deleterious effects, takes the place of digitalis in organic heart disease, relieves promptly without danger of overdose or cumulative action.—B.M.J. i./83,568.

Action of convallaria not identical with that of digitalis; a small dose should be commenced with. L. ii./83,24.

In a case of mitral obstructive disease, Liq. Ext. m.x. 4tis horis, et P. Jalap. Co. 60 grains, o.n., improved action of heart, increased the urine, and œdema of legs and ascites disappeared.—Pr. xxxii.265.

COTO CORTEX.

Coto Bark.

Dose, in powder, 1 to 8 grains 4 to 6 times a day.

Coto Bark, imported from Bolivia, has been used for diarrhœa, gout, and rheumatism. It is rich in resinous principles, which give it a pungent taste.

Extractum Coto Liquidum.

One ounce = one of bark.—*Dose*.—2 to 6 minims.

Tinctura Coto.

Coto Bark	1 ounce.
Rectified Spirit	10 ounces.

Macerate 7 days, press and filter to produce 10 ounces.

Dose.—10 minims, with mucilage and syrup to suspend, every 2 hours, in diarrhœa.—P.J. 1875,301.

Cotoin. Obtained from Coto Bark.

Dose.—½ to 2 grains every 2 or 3 hours, diffused in water by means of mucilage or syrup, for stomachic catarrh and phthisical diarrhœa, causes a reduction of the febrile symptoms.

Cotoin is a pale yellow amorphous powder, or in minute curved crystalline prisms, non-volatile, slightly soluble in water, soluble in alcohol, ether, and chloroform, caustic and carbonated alkalies. It has a bitter taste, and the dust is irritating to the nostrils.

For hypodermic injection a solution 1 in 4 of acetic ether is recommended as having a specific action on the bowels in cholera, 15-minim doses to be given every quarter of an hour to every hour.—P.J. 1883,62.

Paracotoin. Obtained from Paracoto Bark, a bark allied to Coto Bark.

Dose.—1½ to 3 grains every 2 or 3 hours in chronic and acute stomachic catarrh and Asiatic cholera.

Paracotoin is in minute laminar crystals, paler than cotoin. Soluble in ether, chloroform, boiling alcohol, and somewhat in boiling water, but from this it separates on cooling. It appears to be a weaker Cotoin.

Elixir of Coto, very beneficial in cases of infantile diarrhœa—6 to 12 drops every 3 hours.—Pr. xxii.61.

In diarrhœa of phthisis, 5 to 8 minims of fluid extract of Coto found useful. Must not be combined with mistura cretæ.—Pr. xxiii.257.

Checks night sweats in incipient phthisis.—L. ii./81, 318; B.M.J. ii./81,727.

No drug equal to Cotoin in the treatment of diarrhœa of all kinds, especially that of phthisis; it checks salivation and night sweats.—M.R. 1883,16.

COUMARINUM.

Coumarin.

Dose—?

A neutral crystalline principle in colourless rectangular plates, may be obtained from Touka or Tonquin beans, the fruit of *Coumaruma odorata*, is also found in the woodruff *Asperula odorata*, and *Melilotus officinalis*, &c., but it is now manufactured synthetically from Salicylol, or Salicylic Aldehyde. It is almost insoluble in cold water, but readily soluble in hot, dilute acids, and alcohol, has an agreeable aromatic odour, a burning taste, sublimes unchanged, and the vapour acts very strongly on the brain. 1 part to 50 of iodoform has been employed to disguise the odour of the latter.—See Iodoform, p. 212.

CREASOTUM.

Creasote (*Off.*).

Syn.—KREOSOTE.

Dose.—1 to 3 minims.

Obtained from wood tar, soluble in alcohol, ether, glacial acetic acid, fats and oils, insoluble in glycerine, sparingly soluble in water—about 1 in 1,000. Two kinds of genuine Creasote are met with in commerce—Hydrated Creasote, which keeps stable and almost colourless, but makes a cloudy mixture with oil of turpentine, and—Anhydrous Creasote, which, although liable to turn brown, mixes perfectly with oil of turpentine. As Creasote coagulates albumen in solution, it acts locally as a caustic. It is one of the most powerful deodorisers, antiputrescents, and antiseptics. It is used to correct fetor, given to check sickness, added to cod-liver oil for phthisis, and externally in various skin diseases.

Mistura Creasoti (*Off.*).

Dose.—1 to 2 ounces.

Contains 1 minim of Creasote in an ounce. It is not a satisfactory preparation, as the Creasote does not dissolve perfectly.

Pilula Creasoti (Martindale).

Creasote	2 drachms.
Curd Soap, in powder ...	120 grains.

Put the Creasote in a 1-ounce wide mouth stoppered bottle, add the soap, and mix well. Then digest in a water bath till they combine. Each 2 grains of the mass will contain, as nearly as possible, 1 minim of Creasote.—(P.J. 1878,681.)

Dose.—2 to 6 grains.

The writer has found this mass the most convenient for giving Creasote in pills. It combines with other ingredients without decomposition. Calcined magnesia and slaked lime, sometimes recommended as excipients, form compounds with Creasote perfectly insoluble and indigestible. Care should be taken not to mix oxide of silver directly with pure Creasote, else deflagration will occur; but oxide of silver may be mixed with the above mass, although it is not advisable to prescribe the two drugs together in a pill.

Pulvis Creasoti et Amyli.

Creasote	10 minims.
Starch, in powder... ...	1 ounce.

Mix well. It is used as a dusting powder in erysipelas.

Unguentum Creasoti (*Off.*).

Creasote 1 drachm, mixed with 1 ounce of simple ointment.

Unguentum Creasoti Forte, B.S.H.

Creasote	6 drachms.
Yellow Wax	180 grains.

Melt, and stir till cold. Used in psoriasis. Caution.—Should not be applied to the belly, face, or flexor surfaces of the limbs.

Vapor Creasoti, T.H.

Creasote...	80 minims.
Light Carbonate of Magnesia	30 grains.
Water to	1 ounce.

A teaspoonful in a pint of water at 140° F. Useful in chronic congestion of the larynx and trachea, and in ozœna, fetor of breath in bronchitis, gangrenous lung, and syphilitic throats.

References.

Case of poisoning by, with recovery, resembles hydrocyanic acid in its poisonous effects, and both are used to arrest vomiting. As a sedative and anodyne, Creasote is given internally to relieve the pain of cancer of the stomach.—Ass. J. 1853,929.

In cancroid skin diseases pills of Creasote recommended.—L. ii./55,626.

Urine curiously discoloured while taking creasote (? Purity of the Creasote. Probably impure carbolic acid).—B. and F.M.Ch.R. ii./57,134.

Lessens cough and expectoration in phthisis. 1 part in 40 of rectified spirits, of this a teaspoonful twice a day; also in 1 or 2 minim doses in solution in cod liver oil or in troches with balsam of tolu.—Pr. xxii.380; Pr. xxvi.296.

Used for antiseptic inhalation for phthisis dropped on respirator.—L. ii./77,598.

Creasote 3 parts with carbolic acid one part dropped on the cotton wool of the naso-oral respirator recommended for continuous local medication in phthisis. —L. ii./80,870; Pr. xxix.94; B.M.J. ii./81,813.

Creasote used to medicate the respirator. It is more sedative in its action if mixed with an equal volume of spirit of chloroform, 5 to 15 or 20 minims dropped on the cotton wool at one time.—B.M.J. ii./82,7.

CUCUMIS

Cucumber.

The juice of the fruit of *Cucumis sativus*, is in French Codex to prepare:—

Unguentum Cucumis.

Syn.—POMATUM CUM SUCCO CUCUMERIS SATIVI; Fr. POMMADE AUX CONCOMBRES.

Cucumber Juice	1200
Lard	1000
Veal Suet	600
Balsam of Tolu in S.V.R. *q.s.* ...	2
Rose Water	10

F.s.a. Is a cooling ointment, used like cold cream.

Cupreinæ Sulphas.—See p. 131.

CURARA.

Curare.

Syn.—OURARI, URARI, WOURARA, WOURALI.

Dose.—$\frac{1}{20}$ to $\frac{1}{2}$ grain.

The South American Indian arrow-poison, produced from species of *Strychnos* and other plants. A blackish-brown coloured, dry extract, with a bitter taste; contains some resin, but it should be nearly all soluble in water.

Curarinæ Sulphas, Curarine Sulphate.

A salt of the active principle of Curare, very deliquescent and a most powerful poison. In toxicological research, Curarine, like strychnia, with sulphuric acid and bichromate of potash, is coloured first blue, then violet, and later on cherry-red, but the transition is slower than with strychnia; sulphuric acid alone imparts a red colour to solutions containing Curarine, it has no effect on strychnia. The physiological test for Curarine is more valuable.—B.M.J. ii./79,1025.

Injectio Curaræ Hypodermica.

Curare	1 grain.
Distilled water	12 minims.

Rub the Curare to powder carefully, add the water gradually, filter, and add water over the filter to produce 12 minims.—P.J. 1877,424.

Dose.—1 to 6 minims.

Used to paralyse muscular movements in experiments on biliary secretions of dog, in dose of from 0·02 to 0·06 gramme of Curare.—Pr. xxiii.327.

Note on general uses of.—L. ii./75,503.

Note on preparation of.—L. i./80,788.

Relieves chorea; subcutaneous injection of $\frac{1}{20}$ to $\frac{2}{5}$ grain.—L. ii./78,253; Br. ii./78,75.

In hydrophobia, a case cured by $\frac{1}{3}$ to $\frac{1}{2}$ grain, hypodermically, repeated about every half-hour, as required, to allay the spasms, until these ceased entirely, and paralysis of all voluntary movements became apparent.—M.T.G. ii./77,396.

Its botanical sources and varieties.—P.J. 1880-81,491, 529,589,693,754.

Its use as a palliative in hydrophobia.—L. ii./81,624.

Cases of tetanus treated by hypodermic injections of Curare. To adults, 4 grains may be exhibited at intervals in the 24 hours, without danger to life.—Dub. Jour. Med. Sci. 1882,307.

CYPRIPEDIN.

Dose.—1 to 3 grains, in a pill with glycerine of tragacanth.

The dried extract of the root of *Cypripedium pubescens*, Ladies' Slipper. It has a snuff-brown colour, and is given in nervous affections, hysteria, hypochondriasis, and is said to be useful in epilepsy.

DAMIANA.

The leaves of some species of *Turnera* are imported, and are recommended in the United States as possessing aphrodisiac properties.

Extractum Damianæ Liquidum is prepared, of which two drachms represent a drachm of the leaves.

Dose.—1 to 2 drachms.

References.

It is a nerve tonic of great value in sexual debility; useful also in hemiplegia and paraplegia.—Pr. xxiv.58.

Botanical source and history.—P.J. 1875,423,493, 81.

DATURINA.

Daturine.

Dose.—$\frac{1}{120}$ to $\frac{1}{60}$ grain increased to $\frac{1}{16}$ or more, in solution with diluted sulphuric acid.

An alkaloid obtained from *Datura Stramonium.* In crystals resembling atropine, but lighter and more feathery in appearance. That generally met with is the "light Daturine" of Ladenburg, and, according to him, it consists principally of pure hyoscyamine.—See Atropine, p. 87. The author has found that the commercial Daturine was a stronger base than hyoscyamine, but weaker than atropine. It has allied chemical and physiological properties to atropine and hyoscyamine, and is used for ophthalmic purposes to dilate the pupil, &c. The salt

Daturinæ Sulphas is generally employed. It is in minute, white, granular crystals, readily soluble in water.

Guttæ Daturinæ, R.O.H.

Sulphate of Daturine ...	2 grains.
Distilled Water	1 ounce.

Reference.

Given to a patient suffering from acute mania, it acted like hyoscyamine and atropine in producing sleep.—R. and Pr. xviii.166.

DELPHINA.

Syn.—DELPHIA, DELPHINE.

Dose.—$\frac{1}{4}$ to $\frac{1}{2}$ grain in a pill, with glycerine of tragacanth, every 3 or 4 hours.

A white or brownish white amorphous alkaloid obtained from seeds of stavesacre, *Delphinium Staphisagria,* and of larkspur, *Delphinium consolida.* Almost insoluble in water, soluble in alcohol, ether, and dilute acids.

Has been given internally in doses as above, in dropsy and spasmodic asthma. Locally 10 to 30 grains to an ounce of rectified spirit, or an ointment containing the same quantity causes tingling and transient redness like veratria; useful in neuralgia, earache, and toothache.—Stillé and Maisch.

Unguentum Staphisagriæ (*Off.*).—See p. 23.

DIGITALINUM.

Digitalin.

Syn.—DIGITALINE AMORPHE (Codex).

Dose.—$\frac{1}{60}$ to $\frac{1}{30}$ grain in a pill.

The Digitalin of Homolle is met with in commerce as an amorphous yellowish-white powder or small scales, inodorous but irritating to the nostrils, is intensely bitter and poisonous, and possesses the well-known properties of the foxglove, *Digitalis purpurea*, from which it is obtained. Is used to lessen fever and acute inflammations, also in heart disease with rapid weak pulse, and for cardiac dropsy, for internal hæmorrhages, delirium tremens, and spermatorrhœa.

Granules de Digitaline (Homolle).

Dose.—2 to 4 or 5 in 24 hours.

Are much used in France. Each granule contains a milligramme ($\frac{1}{65}$ grain) of Digitalin, equal to about 1 grains Digitalis leaves.

Crystallized Digitaline, *Digitaline cristallisée* (Codex).

Dose.—$\frac{1}{60}$ to $\frac{1}{30}$ grain in a pill.

Is in light, white crystalline tufts of needles, very bitter; insoluble in water and ether, soluble in chloroform and rectified spirit. Should not be dispensed unless *crystals* are ordered.

Digitalein of Schmiedeberg (P.J. 1875,741) is soluble in water, possesses active properties like the above, and is suitable for making hypodermic injections; given in the same dose as Digitalin.

References to Digitalin.

Physiological and therapeutical experiments.—M.T.G. i./55,382.

Is 120 times as strong as Digitalis leaves, given in delirium tremens in doses of $\frac{1}{60}$ to $\frac{1}{30}$ grain.—M.T.G. ii./61,106.

Case of poisoning by, with recovery.—L. i./80,166.

Use in heart disease.—B.M.J. ii./71,148.

Antagonism to aconitia.—B.M.J. Rep. 1877,89.

Hypodermic injection of 1 in 500 of equal parts alcohol and water, in dose of 8 minims, acts well.—B.M.J. i./78,535.

Physiological effects on the blood vessels.—L. ii./81, 886.

Is an irritant to the skin, mucous membranes, hypodermically, and even to the stomach; produces diuresis only in dropsies due to disorders of circulation. Small doses slow the pulse and increase cardiac energy.—L. ii./84,25.

DUBOISINÆ SULPHAS.

Duboisine Sulphate.

Dose.—$\frac{1}{120}$ to $\frac{1}{30}$ grain.

The Sulphate of Duboisine, an alkaloid obtained from Pituri, the leaves of *Duboisia myoporoides*. The salt is usually met with in golden-yellow scales (not crystals), very hygroscopic and readily soluble in water. The alkaloid Duboisine has been crystallized, but is not yet in commerce in this condition. According to Ladenburg, it is identical with pure hyoscyamine (see Atropine) and isomeric with atropine, but it appears to possess more powerful physiological properties than either of these as they are found in commerce. The Sulphate of Duboisine is a costly salt as yet. A solution of 1 grain to the ounce is strong enough for most ophthalmic purposes.

References.

Chemical notes on its isolation.—P.J. 1878,787.

Physiological action. It dilates the pupil, dries the mouth, checks perspiration, causes headache and drowsiness, antagonises muscarine, on the eye it acts more promptly than atropine.—L. i./78,304.

Eight cases of toxic symptoms, giddiness, delirium, and dryness of the mouth from use of eyedrops 4 grains to the ounce.—L. ii./79,353.

As a mydriatic is much stronger than atropine. Its use requires care—it is apt to produce giddiness, &c., and even delirium.—L. ii./79,441.

Physiological properties and medicinal use as a mydriatic; a résumé.—B.M.J. ii./79,362.

Its action relative to atropine, physiologically, &c.—Pr. xxiii.246.

Therapeutic and physiological effects—Differs from atropine by the persistence and greater rapidity of its action on the muscle of accommodation; is a useful calmative in maniacal delirium; as a sedative ointment, 1 in 500 of vaseline applied night and morning is useful in inflammation of the cornea.—Pr. xxv.294.

Résumé of its physiological properties.—L. ii./81,806; B.M.J. ii./81,529; Trans. Med. Congress, 1881,i.511.

In exophthalmic goitre, $\frac{1}{120}$ grain 2 or 3 times a day gives great relief.—B.M.J.i./83,958.

ELATERIUM

Elaterium (*Off.*).

Dose.—$\frac{1}{16}$ to $\frac{1}{2}$ grain.

Is a powerful hydragogue cathartic, useful in renal or cardiac disease complicated with dropsy.

Preparations.

Tinctura Elaterii Composita.

Elaterium	1 grain.
Compound Tincture of Chloroform	1 ounce.

Dose.—10 to 30 minims.

It is preferable to add the chloroform (which is a ready solvent of Elaterin) of the tincture first, macerate 2 days, then add the rectified spirit and compound tincture of cardamoms, macerate 5 days more and filter. This preparation is more active than a corresponding dose of the powder.

Elaterinum, Elaterin (*Off.*).

Syn.—MOMORDICIN.

Dose.—$\frac{1}{40}$ to $\frac{1}{10}$ grain.

The neutral active principle of Elaterium, is in colourless, hard, acicular crystals, insoluble in water, soluble in chloroform and hot alcohol.

Pulvis Elaterini Compositus (*Off.*).

Dose.—$\frac{1}{2}$ to 5 grains. Consists of Elaterin 1, Sugar of Milk 39.

ELIXIRS.

These form in America an agreeable and popular mode of administering various medicines. They are generally composed of a weak-flavoured syrup, with a fair proportion of alcohol, which latter may account for much of the esteem with which they are popularly held.—P.J. 1874, 682.

Elixir Simplex.

Spirit of Orange (Oil 1, Rect. Spt. 9)	$\frac{1}{2}$ ounce.
Rectified Spirit	$4\frac{1}{2}$ ounces.
Distilled Cinnamon Water	6 ounces.
Syrup	6 ounces.

Mix and filter.

Dose.—20 minims to 1 drachm. This quantity may be added to the ounce of any liquid medicine.

Elixir Bismuthi.

Citrate of Bismuth	160 grains.
Distilled Water	2 ounces.
Solution of Ammonia	2 drachms, or more if needed to dissolve the bismuth.

Dissolve, filter, and add

Simple Elixir to	10 ounces.

Dose.—1 drachm = 2 grains citrate of bismuth.

Elixir Camphoræ.—See p. 109.

Elixir Camphoræ Monobromatæ.—See p. 110.

Elixir Cinchonæ.

Tincture of Red Bark	2 ounces.
Simple Elixir	14 ounces.

Mix and filter.

Dose.—1 drachm = 2 grains of bark.

Elixir Guaranæ.—See Guarana, p. 201.

Elixir Phosphori.—See Phosphorus, p. 270.

Elixir Rubrum.

Solution of Carmine (p. 116)	1 drachm.
Simple Elixir to	8 ounces.

Mix.

Dose.—20 minims to 1 drachm.

Gives an agreeable flavour and colour to liquid medicines, but is not compatible with acids.

Elixir Acidum (Haller's Acid Elixir).

Syn.—LIQUOR ACIDUS HALLERI (Danish P.).

Dose.—2 to 8 minims.

Strong Sulphuric Acid,
Rectified Spirit, of each equal weights.

Mix carefully and gradually.

Austrian P. has Liquor Acidus Halleri 1 to 3 of spirit (weight); German P., Mixtura Sulphurica Acida 1 to 3 (weight); Codex, Acide Sulfurique Alcoolisé 100 to 300, and red poppy petals 4 (weight); and T.H., Acidum Sulphuricum Alcoholisatum 15 to 105, and oil of sage 1 (measure). In all these much of the sulphuric acid is in the form of ethyl-sulphuric acid (sulphovinic acid), which is more agreeable in taste than diluted sulphuric acid. If mixed with sweetened water, they form agreeable cooling drinks, useful in checking excessive perspiration. In acidum sulphuricum aromaticum, B.P. (p. 8) elixir of vitriol, a weak form of the old Mynsicht's Elixir Vitrioli—ethyl-sulphuric acid is formed on keeping, but not much while making it. The preparation would be improved by carefully heating the mixture of acid and spirit to encourage the formation of the vinous acid.

EMBLICÆ FRUCTUS.

Emblic Myrabolan Fruit.

Dose.—One or two as required. The taste of the pulp is very agreeable.

The fruit preserved in sugar of *Phyllanthus emblica*, *Myrabolanus emblica*, *Emblica officinalis*, or Nilicamam (*Hindi*). It is used in India to excite the appetite, and taken after meals for atonic dyspepsia. In the fresh state, the fruit consists of a fleshy, acidulous pulp enveloping an angular nut. The pulp is rather austere, and is possessed of purgative properties.

The fresh juice is cooling, diuretic, and laxative. The confection promotes the appetite, and acts as a tonic. —Dutt's Hindu Materia Medica.

Tried carefully in several cases of habitual constipation; is a valuable addition to our list of laxatives. It may be taken at dinner or dessert. It is most valuable for children.—B.M.J. ii./82,173.

Confectio Emblicæ.

The fruit, pulped and freed from nuts, &c.

Dose.—1 or 2 teaspoonfuls.

EMETINA.

Emetine.

Syn.—EMETIA.

Dose.—$\frac{1}{200}$ to $\frac{1}{30}$ grain, as an expectorant; $\frac{1}{6}$ to $\frac{1}{3}$ grain as an emetic.

An alkaloid obtained from *Cephaëlis Ipecacuanha*, as met in commerce, is in pale, brownish-white, amorphous masses, sparingly soluble in water and ether; freely soluble in alcohol, chloroform, and dilute acids. It can be obtained in white crystals, which turn yellow exposed to sunlight. It irritates the skin applied locally, producing pustules, like tartar emetic. Two grains suffice to kill a dog. It is a powerful emetic and depressent. Ipecacuanha yields about 1 to $1\frac{1}{2}$ per cent. of Emetine.

Emetin—**Extractive.**

Dose.—Expectorant $\frac{1}{10}$ to $\frac{1}{15}$, emetic $\frac{1}{2}$ to 1 grain, in pill or solution.

An extractive substance, soluble in water, is made as a commercial article, and must be distinguished from the above.

Trochisci Morphinæ et Emetin contain $\frac{1}{40}$ grain of Morphine and $\frac{1}{80}$ grain of Emetin in each.

Emetine is an emetic by reflex action, reduces the respiration and circulation, and it combats the convulsions caused by strychnine.—B.F.M.C.R. ii./74,247.

Physiological properties.—Its action seems to be limited to the peripheric extremities of the vagus nerve. —L. ii./74,532.

Abstract of physiological properties.—L. i./80,500.

ERGOTA.

Ergot of Rye (*Off.*).

Syn.—SECALE CORNUTUM.

Dose.—10 to 30 grains in recent powder infused in boiling water.

Extractum Ergotæ Liquidum, *Off. Dose* 10 to 60 minims, 1 = 1 of Ergot.

Infusum Ergotæ, *Off. Dose* 1 to 2 ounces, 1 = 40.

Tinctura Ergotæ, *Off. Dose*, 15 to 60 minims, 1 = 4.

Therapeutic uses of Ergot.—Pr. i.161.

Acidum Scleroticum.—See p. 173.

Ergotinum, Ergotin, or Ergotine (*Off.*).

Syn.—BONJEAN'S ERGOTIN.

Dose.—1 to 3 or 5 grains, in a pill (with althæa) or hypodermic solution.

The purified aqueous extractive of ergot. As found in English commerce, it is a dark-brown extract, having the odour of roast beef,—sometimes desiccated, and in brittle lumps, very hygroscopic, and freely soluble in water. It is given to check all forms of passive hæmorrhage.

Injectio Ergotini Hypodermica (*Off.*)

Ergotin 1 grain, in camphor water 2 minims.

Dose.—3 to 10 minims.

The writer prepares it of the strength of 1 grain *in* 2 minims; *dose*—2 to 8 minims. Should be freshly prepared, or, if required to be kept, 1 per cent. of carbolic acid should be added to the solution.

Cases of aneurism — one subclavian and one radial cured by subcutaneous injection of Ergotin.—Pr. ii.310.

A dose given in the St. André Hospital, Bordeaux, after operations to lessen suppuration.—Pr. ii.61.

For hæmoptysis of tubercle, doses of 1 to 1½ grain, and in intestinal hæmorrhage of typhus.—M.T.G. ii./72,549.

Hæmorrhage, to check external or internal, especially in scrofulous persons.—M.T.G. i./74,537.

Epistaxis — hypodermic injection of, into the arm, of 3 grains in 10 minims of warm water, is found of the greatest success.—Br. i./75,308.

Epistaxis occurring in the course of a case of trichinosis, Ergotin used as a styptic, also suggested to be used as a killer of the trichinæ.—Pr. xxi.462.

Uterine fibroid, successful treatment of, by hypodermic injections deeply into the muscles of the buttock, of 2 to 5 grains of Ergotin, and 4 grain Ergotin suppositories; use of these continued 5 days previous to periods.—Pr. xxii.32.

Thèse, abstract of, on its hæmostatic action by hypodermic injection.—Pr. xxiv.130.

In erysipelas, 1 in 50 of water, locally applied, reduces the heat, pain, and swelling.—B.M.J. ii./81,935.

In prolapsus ani, 3 to 4 grains, injected into the sphincter or prolapsus every 2 or 3 days, cured in a few weeks.—Pr. xxvii.369.—2 Pr. xxx.453.

A dose of Ergotin, injected deeply into the gluteal muscles just before delivery, seldom fails to give perfect uterine contraction.—Br. i./81,lxviii.

Use in cerebral affections; Ergotin seems to have a powerful action over certain disturbances of speech in which patients utter words they do not intend to pronounce.—M.R. 1882, 496.

In Pertussis, is without a doubt a valuable remedy.—Pr. xxviii.359.

Ergotin causes spasm of arterioles and rise of blood pressure, by acting directly on the vessels independently of the central nervous system.—B.M.J. i./84,97.

Ergotininum, Ergotinine.

A whitish amorphous alkaloid (can be with difficulty crystallized), insoluble in water, soluble in alcohol, ether, chloroform, and dilute acids; solutions in the latter readily decompose on exposure to the air, slight heat, or alkaline reagents; sulphuric acid with a trace of ether turns it to a yellow red, then blue violet colour. Ergotinine, 1; lactic acid, 2; chloroform water to 1,000, forms a **Hypodermic Injection** which is quick in action in dose of 5 to 10 minims, repeated if needed to the extent of 20 minims. It is costly.—L. ii./82,945.

Liquor Ergotæ Ammoniatus.—1 = 1 of Ergot.

Dose.—10 to 60 minims.

A preparation in which Ergot is exhausted by ammoniated proof spirit.

Pharmaceutically, it has been found that ammonia not only exhausts Ergot of its active medicinal properties, but also secures a uniform, stable, liquid preparation; whilst, therapeutically, the combination of ammonia and

Ergot is indicated in some forms of post-partum hæmorrhage, &c.

A remarkably active preparation of the drug.—L. i./76,93; B.M.J. i./76,89.

A more efficient and reliable preparation, as powerful in action, if not more so, than the fresh infusion prepared from recently-powdered Ergot.—L. i.77,115.

Acidum Scleroticum, Sclerotic Acid.

Syn.—SCLEROTINIC ACID.

Dose.—½ to ¾ of a grain hypodermically.

This weak acid principle is, according to Dragendorff, the most active of a series of preparations he has obtained from Ergot. It is uncrystallizable, has a pale brown colour, darkens with age, is hygroscopic, and freely soluble in water.

Injectio Acidi Sclerotici Hypodermica.

One grain in distilled water to 6 minims.

Dose.—3 to 5 minims.

Should be freshly prepared, or, if required to be kept, 1 per cent. of carbolic acid should be added to the solution, as it is prone to change.

As a hæmostatic Sclerotic Acid possesses all the virtues of Ergot. Injected hypodermically, it is preferred to Ergotin, as it causes no inflammation at the seat of puncture.

Accounts of its chemical preparation.—P.J. 1876, 1001; P.J. 1877,106.

Note on its physiological and therapeutic properties. It accelerates the intestinal peristalsis, and excites contraction both of the pregnant and non-pregnant uterus, pre-existing contractions being intensified. Not a powerful poison, 0·02 to 0·03 gramme being a dose by hypodermic injection.—M.T.G. ii./79,642.

ERYTHROPHLŒUM.

Casca Bark.

Syn.—SASSY BARK; ORDEAL BARK.

The bark of *Erythrophlœum Guineense*, a leguminous tree, has an action resembling that of digitalin and picrotoxin combined. Its powder causes most violent sneezing, and it is a powerful poison. It contains an alkaloid—Erythrophlœine, not as yet crystallized nor yielded crystallized salts.—P.J. 1876,77.

Erythrophlœinæ Hydrochloras.

Dose.—(?)

A yellowish brown granular powder, readily soluble in water. The solution has an acrid, bitter taste. Has the combined action of digitalin and picrotoxin—5 milligrammes ($\frac{1}{13}$ grain) produced cramps, and was fatal to cats and guinea pigs,—for dogs a somewhat larger dose was required.—Archiv für exp. Path. u. Pharm. 1882,483.

Tinctura Erythrophlœi.

1 in 10 of rectified spirit.

Dose.—5 to 10 minims.

In mitral disease and cardiac dropsy depending on it, it is a more powerful remedy than digitalis, its effects on the arterioles is greater, and is useful in dilated heart. — B.M.J. i./77,345,379; B.M.J. i./78,490; L. i./83,185.

Physiological action.—Phil. Trans. Roy. Soc. clxvii. pt.2,627.

Eserine.—See Physostigmina, p. 277.

ETHIDENI DICHLORIDUM.

Dichloride of Ethidene.

Syn.—Monochlorethyl-Chloride; or Chlorinated Chloride of Ethyl.

A colourless volatile liquid possessing the odour and taste of chloroform. It is said to be identical with Chloride of Ethylidene, which is obtained as a bye-product in the manufacture of chloral, or may be made by the action of pentachloride of phosphorus on aldehyde, but a much more certain and uniform product may be obtained if made as the Monochlorethyl-Chloride, the preparation first used by Snow. It has Sp. Gr. about 1·2, boiling point 135° to 150° F. (147·2° Regnault.) It is isomeric with chloride of ethylene (Dutch liquid), but the boiling point and Sp. Gr. of the latter are higher. Dichloride of Ethidene is miscible in all proportions with pure ether, alcohol, and chloroform, soluble about 1 in 300 in water, being less so than chloroform.

It is a much safer anæsthetic than chloroform, but more costly.

References.

It was used as an anæsthetic by Dr. Snow, who died while finishing his work on anæsthetics. He was taken ill while writing on this liquid; in the middle of a sentence he wrote his last word on the page. The word was "exit."—M.T.G. i./70, 642; P.J. 1870,3.

Compared with chloroform, Dichloride of Ethidene is pleasanter, more rapid in action, causes no excitement during nor after administration, more rapid recovery from it, and altogether there is less danger attending its use. Children require about 1 drachm, adults 4 or 5 drachms.—Steffen in Binz.

A dog will live for a lengthened period in a state of complete anæsthesia under the influence of Ethidene Dichloride, whilst it will die in a short time when chloroform is used. The circulation is more easily re-established when the cessation is due to Ethidene than to chloroform, but not so quickly as when due to ether. Ethidene reduces the blood pressure by regular gradations, and not, as with chloroform, by sudden and unexpected depressions. Under the use of Ethidene, there was, on no single occasion, an absolute cessation either of the heart's action or of respiration, although they are sometimes very much reduced. The disadvantages of ether in affecting respiration are, to a great extent, obviated by the use of Ethidene, whilst the dangers of chloroform are reduced to a minimum.—Reports of the Glasgow Committee on the action of Anæsthetics. B.M.J. i./79,2; B.M.J. ii./80,957.

As an anæsthetic preferred to bromide of ethyl.—B.M.J. i./80,586.

Lecture on use in 287 cases of major surgery and 1,565 cases of minor; one death.—B.M.J. i./80,797.

Used in six cases as an anæsthetic, all presented the appearance of a strong stimulant to the heart's action at the commencement of the administration, only one was sick; a good anæsthetic for children.—M.T.G. i./79,62.

For operations on the eye, the writer is confident it is the best anæsthetic yet in use.—B.M.J. i./81,30.

Report of death from, result not attributable wholly to the anæsthetic.—B.M.J. i./81,385.

Arrest of the heart's action and recovery. It depresses more quickly and markedly than chloroform, but less persistently; on removing inhaler and allowing an inspiration of air, effects at once pass off.—B.M.J. i./81,431.

Action on the frog's heart like that of chloroform.—Pr. xxvii.13.

Death from, during eye operation.—L. i./83,143.

Note on administration of.—L. i./83,253.

EUCALYPTI FOLIA.

Eucalyptus Leaves.

Dose.—5 grains or more in powder.

The dried leaves of *Eucalyptus Globulus*, or blue gum-tree of Australia, have been employed medicinally in the treatment of ague and bronchitis, and are now much used in Italy for Roman and malarial fevers; also, when coarsely powdered, are employed for smoking in cigarettes in cardiac and aneurismal asthma. The narrow leaves, mostly scimitar-shaped, are more active medicinally than the broad leaves of herbaceous shoots. No alkaloidal principle has been discovered in them, or in the bark of the tree, which also has been used in surgery. The medical properties are principally due to a volatile oil, which is now largely imported.

Oleum Eucalypti (*Off.*).

Dose.—1 to 5 minims emulsified, or mixed with olive oil.

Is principally distilled from the leaves of *Eucalyptus amygdalina* as well as *E. Globulus* and probably other species. It is to this oil, and partially to the great avidity the tree has for water when growing, that the latter owes its anti-malarial influence. The oil is a powerful antiseptic, and has an ozonising influence on the atmosphere while it oxidises. It has a pale yellow colour, a penetrating camphoraceous odour, Sp. Gr. about 0·900, and boils between 338° and 392° F. It is not caustic, like carbolic acid, nor does it produce much irritation when applied to the skin or mucous membrane, although it is very destructive to low organic growths. It is soluble in oils, fats, paraffins, and alcohol, but only a trace dissolves in water. An emulsion may be made by putting equal quantities of powdered gum arabic and the oil into a dry bottle, adding 40 parts of water, more or less, and shaking well. This is useful as a urethral injection or lotion, and may be given internally in 1 to 4-drachm doses.

The oil is useful mixed with an equal quantity of olive oil as a rubefacient for rheumatism.

A large percentage of Eucalyptus oil consists of **Eucalyptol,** a liquid also met with in commerce; it is that portion of the above oil which passes over between 338° and 352° F. It is obtained by treating the latter with caustic potash, then with chloride of calcium and subsequent distillation. Later researches have proved that it is a mixture of Terpene and Cymene.

Preparations.

Eucalyptus Gauze, Carbasus Eucalypti. In 6-yard pieces.

Unbleached cotton gauze, impregnated with

Oil of Eucalyptus	1
Dammar Resin	3
Paraffin Wax	3

An antiseptic surgical dressing. In using it there is no danger of poisonous absorption of the antiseptic, as with carbolic acid gauze.—L. i./81,828; B.M.J. i./81,850.

Iodoform and Eucalyptus Bougies.—See Iodoform, p. 213.

Tinctura Eucalypti Foliorum.

One part of leaves with proof spirit to produce 5 parts of tincture.

Dose.—15 minims to 2 drachms.

Unguentum Eucalypti (*Off.*).

Hard Paraffin	2 ounces.
Soft Paraffin	2 ounces.

Melt, and add while hot

Oil of Eucalyptus	1 ounce.

Stir till cold. A mild antiseptic dressing.

Unguentum Iodoformi et Eucalypti.—See Iodoform, p. 214.

History of the drug, its uses and botanical origin. Is a febrifuge, the leaves are also employed as a healing application to wounds.—M.T.G. i./74,540; P.J. 1874, 872; P.J. 1879,865.

Ague, rapid cure of, by 1 to 2 drachm doses of the tincture.—Pr. xviii.366.

In ozœna, bronchitis with profuse foul expectoration, and uterine catarrh, tincture and infusion used both internally and externally.—Pr. xx.206.

Tincture used in intermittent fever.—Pr. xx.411; Pr. xxiv.138.

In diphtheria, a mixture of 5 grammes of oil, 25 grammes of rectified spirit, and 170 grammes of water used for 10 inhalations, or equal parts of the oil and rectified spirit, of which 10 to 60 drops were used for an inhalation.—M.T.G. ii./79,214.

Oil of Eucalyptus is a powerful antiseptic—more than three times as strong as carbolic acid in preventing development of bacteria, and not so poisonous. 80 minims may be taken in 2½ hours.—Pr. xxv.212.

As a surgical dressing, gauze dipped in a solution of the oil 3, alcohol 15, and water 150. This gauze may be left undisturbed 4 or 5 days.—L. ii./80,387.

Air impregnated with Eucalyptus oil vapour recommended as a substitute for the carbolic spray.—B.M.J. ii./82,420.

Pessaries, composed of 6 drachms of Eucalyptus oil, and 4 drachms each, of oil of theobroma and white wax divided into 12, one night and morning, or at night only, found useful after parturition, checks fœtor and decomposition of lochial discharge; and 5 minims of Eucalyptus oil mixed with 20 of olive oil, used and recommended as a hypodermic injection for pyæmia.—L. ii./82,343.

Use of steam from the infusion of leaves in infectious diseases, especially diphtheria.—L. i./83,316; vapor of Eucalyptus oil used for diphtheria.—L. ii./83,362.

EUCALYPTI GUMMI.

Eucalyptus Gum.

Syn.—Red Gum.

Dose.—2 to 6 grains. May be made into pills with mucilage of acacia and a trace of glycerine, quickly manipulated.

An inspissated secretion from *Eucalyptus rostrata* and *corymbosa* and probably other species imported from Australia. It is semi-translucent and garnet-coloured, not so dark as, but resembling, kino in appearance. Soluble in water, tough and difficult to powder, it adheres to the teeth when chewed, is intensely astringent to the mucous membrane, useful in diarrhœa, relaxed throats, and given with success to check the purging of mercurial pill administered for syphilis.

This gum should be distinguished from the common Australian or Botany Bay kino, said to be the produce of *E. resinifera.* The latter is very resinous and little soluble in water.

Preparations.

Decoctum Eucalypti Gummi.

Eucalyptus Gum	1
Distilled Water	40

Boil till dissolved and strain. Used as gargle, and given for diarrhœa in 2 to 4 drachm doses.—L.ii./83,1029.

Extractum Eucalypti Gummi Liquidum.

Eucalyptus Gum	1
Distilled Water	3

Dissolve by constant shaking and strain.

Dose.—30 to 60 minims in water.

A styptic. Injected into the nostril stops bleeding from the nose, and applied on lint arrests hæmorrhage from wounds. A tablespoonful to a pint of water forms an astringent injection for the vagina or bowel (Squire). This dilution may be also used as a gargle.

Insufflatio Eucalypti Gummi.

Eucalyptus gum in fine powder.	
Starch in powder, of each ...	¼ grain.

Applied by means of an insufflator, is a powerful astringent in hæmorrhage and relaxed conditions of the larynx and trachea. It does not thus affect the palate or appetite.

Syrupus Eucalypti Gummi (Squire).

Liquid Extract of Eucalyptus Gum	5 ounces.
Sugar	3 ounces.

Dissolve.

Dose.—30 to 60 minims.

Tinctura Eucalypti Gummi (Squire).

Eucalyptus Gum	1 ounce.
Rectified Spirit	4 ounces.

Shake till dissolved and strain.

Dose.—20 to 40 minims. 1 part to 7 of water forms a very astringent gargle.

Trochisci Eucalypti Gummi.

Contain 1 grain in each, combined with fruit paste.

Trochisci Eucalypti Compositi (L. Browne).

Contain in each

Chlorate of Potassium	...	2 grains.
Cubeb Powder ...	...	$\frac{1}{4}$ grain.
Eucalyptus Gum ...	...	1 grain.

With fruit paste, and are marked C.E.

Useful in congested and relaxed throats, especially when accompanied by arrest of mucous secretion.

EUONYMIN.

Dose.—$\frac{1}{2}$ to 5 grains. In a pill, with extract of henbane or glycerine of tragacanth.

The powdered extractive of a dark olive-brown colour generally, obtained from the bark of the root of the wahoo or spindle-tree—*Euonymus atropurpureus.* Possesses tonic, hydragogue, cathartic, diuretic, and antiperiodic properties. A so-called glucoside Euonymite has been obtained from it which is identical with Dulcite.

Pilula Euonymin.

Euonymin ...	... ...	2 grains.
Extract of Henbane ...	...	*q.s.*

To make one pill; take at bedtime. A cholagogue stimulant, producing no depression or headache; requires to be followed by a saline aperient in the morning. —Pr. xxiii.335.

A powerful hepatic stimulant, but not nearly so powerful an irritant of the intestine as podophyllin.—B.M.J. Rep. 1878,63; B.M.J. i./79,177.

One grain, combined with 4 grains iridin, is a successful purging dose.—B.M.J. ii. 79,932.

Tinctura Euonymi.

Dose.—10 to 40 minims, is prepared from 1 of young bark of Euonymus in 4 of rectified spirit.

EUPHORBIA PILULIFERA.

This Australian dried plant, having attracted much medical attention there, is now being used in France as well as here as a remedy for asthma and bronchial affections, in paroxysmal dyspnœa, laryngeal spasm, whooping cough, angina pectoris, and in all affections of the pneumogastric. It appears to act directly and solely on the respiratory and cardiac centres.—L. ii./85,86; P.J. 1885,987.

Decoctum Euphorbiæ Piluliferæ.—1 in 40.
Dose.—2 ounces twice daily.

Extractum Euphorbiæ Piluliferæ.
Dose.—½ to 1½ grains; is an aqueous extract.

EXTRACTUM CARNIS.

Extract of Meat.

Syn.—LIEBIG'S EXTRACT. Sold retail in 2, 4, and 16 oz. jars.

This extract is principally prepared in South America and Australia, where meat can be obtained cheaply. It is of a brown colour, and has an odour of roast meat. It is prepared by concentrating by evaporation, an aqueous infusion of meat. During the process, the fat and albumen are separated. It contains little or no gelatine, but consists of creatin, creatinin, globulin, and urea, with organic potash and other salts. It has been much over-estimated as a food, either for invalids or healthy persons; still it is often valuable as a flavouring to add to soups, beef-tea, &c., and it is a *nervous* food allied to tea. A quarter of a teaspoonful or more may be added to a breakfast-cup full of boiling water, with salt to taste, to form a beef-tea.

The other preparations of meat sold for medicinal use are:—

Concentrated Beef-Tea (Brand's).

A firm jelly, sold in ¼ and ½ lb. tins, also in skins, contains the natural gelatine of the meat, and, diluted, forms a nutritious substitute for true beef-tea.

Essence of Beef (Brand's).

Sold in ¼ lb. tins.

A soft, transparent, amber-coloured jelly, prepared from beef by exhausting with tepid water. It is agreeable to the palate and stomach of a delicate invalid; will often be relished when all other food is repelled, and is useful in allaying obstinate vomiting. It is best taken cold by teaspoonfuls, as desired, with or without a little bread and wine. A similar preparation is made from chicken.—M.T.G. i./61,536,587.

Meat Lozenges (Brand's).

Sold in boxes; are savoury, gelatinous essence of beef lozenges, and contain substantial support for travellers in a portable form.

Peptonised Beef Jelly.—See Pancreas, p. 258.

Meat Juice (Valentine's).

Sold in 2 oz. bottles.

A dark, reddish-brown liquid preparation of meat, imported from Richmond, U.S.A. It is the expressed juice of meat concentrated at a low temperature in vacuo. A teaspoonful is added to 3 tablespoonfuls of cold or tepid water, and taken in tablespoonful doses or more for sickness or exhaustion. Hot water coagulates the albumen in it.

Sanguis Bovinus Exsiccatus, Desiccated **Blood.**

Blood freed from fibrin, evaporated, at a low temperature, to dryness. Is in blackish-red, opaque scales, like tartarated iron in appearance, readily soluble in cold water. One part in 8 of tepid water may be used as an enema; the same strength, with the addition of a little glycerine and brandy, to keep the mixture, is recommended to be given in tablespoonful doses; or it may be given powdered, put into gelatine capsules.

Useful as a nutritive enema.—L. i./81,322.

Use in puerperal insanity as enema.—L. ii./83,278.

FERRI BROMIDUM.

Bromide of Iron.

Dose.—3 to 10 grains.

Prepared by the direct combination of bromine with metallic iron in the presence of water, and evaporating the solution till, when cooled, it will solidify. In greyish-white deliquescent masses, which, on exposure to the air. acquire a brown colour from oxidation.

Syrupus Ferri Bromidi.

Bromide of Iron	160 grains.
Iron Wire, polished ...	10 grains.
Distilled Water	3 drachms.

Heat together till, on filtering, the solution passes almost colourless; when the liquid ceases to pass, wash the filter with a few drops of distilled water, and add the whole of the filtrate to

Syrup *q.s.* to	4 ounces.

Mix.

Dose.—1 drachm = 5 grains of the salt.

Syrupus Ferri Bromidi cum Strychninâ.

Dose.—1 drachm = $\frac{1}{32}$ grain Strychnine and about 5 grains of Bromide of Iron.

Strychnine	...	...	1 grain.
Hydrobromic Acid ...		...	1½ drachm.

Dissolve and add

Syrup of Bromide of Iron to 4 ounces.

Mix.

In one drachm of each of the last two syrups one grain of hydrobromate, or, preferably, acid-hydrobromate, of quinine is dissolved to form respectively,

Syrupus Ferri Bromidi cum Quininâ, and

Syrupus Ferri Bromidi cum Quininâ et Strychninâ.

FERRI PERCHLORIDUM.

Perchloride of Iron.

(With 12 molecules of water of crystallization.)

Dose. —2 to 8 grains.

The official preparations of Perchloride of Iron are :—Liquor Ferri Perchloridi, *dose*, 10 to 30 minims ; Liquor Ferri Perchloridi Fortior, *dose*, 2 to 8 minims; and Tinctura Ferri Perchloridi, *dose*, 10 to 30 minims. They are incompatible with infusions, &c. containing tannin, with the alkalies, alkaline carbonates, and mucilage of acacia. The tincture, composed of strong liquor 1, rectified spirit 1, and water 2, is the most generally used, and most valued preparation of iron for internal administration in anæmia, chlorosis, &c. If diluted from well-prepared strong Liquor, the tincture is more stable than the weak Liquor, which, for economy's sake, often supplants it. The strong Liquor is generally employed topically as a styptic or pigment ; for this purpose, it has the disadvantage of containing a little more free acid than chemically neutralises the iron as perchloride. As a hæmostatic, therefore, the solid crystallized perchloride of iron containing 12 molecules, 40 per cent. of water, or a strong solution of it, is preferred. This salt is prepared by carefully evaporating the stronger official solution and setting aside to crystallize. It is in pale orange-yellow opaque crystalline masses, very deliquescent, and entirely soluble in water. A crystalline perchloride of iron, containing only five molecules of water, is much used in France; it is in drier masses, but does not make a bright solution. The anhydrous perchloride, having such great affinity for water, would act as a powerful caustic.

A Liquor Ferri Perchloridi Fortior of B.P. Sp. Gr. 1·42 may be made from the first-named salt by dissolving

Perchloride of Iron, with 12Aq.	5 parts.
Distilled Water	2 parts.

In T. H. the salt is ordered in

Injectio Ferri Perchloridi, 60 grs. in	1 oz.
Pigmentum Ferri Perchloridi Dilutum, 60 grs. in... ...	1 oz.
Pigmentum Ferri Perchloridi Forte, 120 grs. in	1 oz.
Nebula Ferri Perchloridi, 3 grs. in	1 oz.

Glycerine covers its metallic astringent taste when given internally, and modifies the styptic properties of Perchloride of Iron partially by its viscosity, and partially by reducing it from the ferric to the ferrous state.

In post-partum hæmorrhage Perchloride of Iron is of great service. Soak a sponge, fixed on a whalebone stem, in a mixture of one volume of the stronger liquor Ferri Perchloridi B.P. (= 1 part of solid, which is more styptic and portable) with three volumes of water, and pass into the cavity of the uterus as a swab.—Barnes' Obstetric Operations, 3rd edit., 476. Also used as an injection, 1 of solid to 10 of water.

Mistura Ferri Amara.—U.C.H.

Solution of Perchloride of Iron	30 minims.
Spirit of Chloroform... ...	5 minims.
Infusion of Quassia ... to	1 ounce.

Mix.

Mistura Ferri Aromatica (*Off.*).

Syn.—HEBERDEN'S INK.
Dose.—1 to 2 ounces.

Red Cinchona Bark, in powder	1 ounce.
Columba Root, in coarse powder	½ ounce.
Cloves, bruised	¼ ounce.
Fine Iron Wire	½ ounce.
Peppermint Water	12 ounces.

Macerate, with occasional agitation, for 3 days, then filter, and add

Compound Tincture of Cardamons	3 ounces.
Tincture of Orange Peel ...	½ ounce.
Peppermint Water to ...	16 ounces.

Mistura Ferri Aperiens.—U.C.H.

Sulphate of Magnesia ...	60 grains.
Sulphate of Iron	4 grains.
Diluted Sulphuric Acid ...	9 minims.
Peppermint Water ... to	1 ounce.

Dissolve and mix.

Mistura Ferri Perchloridi.—U.C.H.

Solution of Perchloride of Iron	15 minims.
Spirit of Chloroform... ...	9 minims.
Glycerine	9 minims.
Water... ... ... to	1 ounce.

Mix.

Mistura Ferri Salina.—U.C.H.

Citrate of Potash	22 grains.
Solution of Perchloride of Iron	24 minims.
Spirit of Chloroform	9 minims.
Water ... ... to	1 ounce.

Dissolve and mix.

The styptic taste of iron is masked in this mixture, as a double decomposition occurs between the iron and the potash salt.

Liquor Ferri Chloroxidi.

Stronger Solution of Perchloride of Iron	4 ounces.
Distilled Water	2 pints.

Mix, and add in excess,

Solution of Ammonia... ...	*q.s.*

Collect, wash well the precipitate, stir, and dissolve it with a gentle heat in

Stronger Solution of Perchloride of Iron	1 ounce.
Distilled Water, to make when filtered	1 pint.

Dose.—10 to 30 minims.

The above makes a basic solution of Ferric Chloride of the same strength as the tincture. By placing thi solution on a septum floating in water, it may be furthe freed from chloride, become less styptic in taste, an forms

Liquor Ferri Dialysatus (*Off.*).

Dose.—10 to 30 minims.

The two last preparations, made as directed, are dark reddish-brown in colour, and contain about 5 per cent. o ferric chloride. The strength of the latter will b slightly variable, as some of the iron passes through th septum. The manufacturers' processes for making i vary; it is, in reality, *un*-dialysed, or colloid, iron, as i does not pass through the septum; doubts have, therefore, been cast on its digestibility and its utility as medicine.—P.J. 1880,639,709,723.

These two preparations of iron are useful when th strong acid preparations of iron cannot be borne b the stomach, but they are compatible with few othe medicines, they will not bear dilution with commo water, or with much distilled water without depositin the oxide. They ought, therefore, to be supplied to th patients as "drops," undiluted, or mixed with glycerin —See below.

Dialysed iron is useful as an antidote to arsenic—muc superior to the moist peroxide; 1 ounce doses should b given repeatedly, preceded by a dose of common salt o bicarbonate of soda.

Glycerinum Ferri Dialysati.

Dialysed Iron Solution ...	20 minims.
Glycerine	40 minims.

Keeps well, and is palatable.

Dose.—1 drachm.

Syrupus Ferri Dialysati.

Dose.—1 drachm (contains 20 minims of liquor Is a very unstable preparation.

References.

Experiments as to the antidotal value of dialysed iro solution.—P.J. 1878,281,569,1001.

Arsenical poisoning case recovered by treating wit 2-drachm doses given diluted with water frequently.—P.J. 1878,570.

The chloroxide solution in treating a case of extreme anæmia during nine weeks, increased the number of red-blood corpuscles from 26 per cent. to 92 per cent. ; in another case, patient taking Liq. Ferri Chloroxidi, m.xx., cum Liq. Bismuthi et Ammonii Citratis, m.xx., ter die, for thirteen weeks, from 47 to 102 per cent.—L. i./78,675 ; Pr. xxi.1.

Ferrum Peptonatum, Peptonised Iron.

Dose.—5 to 15 grains.

Is a brown powder in solution, having 1 part of oxide of iron combined in a soluble form with about 8 parts of peptone; solution may be used hypodermically. It is stated that iron in this form will pass through the membrane of a dialyser.—L. ii./85,453.

FERRI PHOSPHAS.

Phosphate of Iron (*Off.*).

Syn.—FERROUS PHOSPHATE. The U.S. Ferri Phosphas is a soluble sodio-citro-ferric phosphate.

Dose.—2 to 10 grains.

Preparations.

Syrupus Ferri Phosphatis (*Off.*).

Dose.—1 drachm, which contains 1 grain of phosphate of iron.

The B.P. process may be simplified as follows :—

Iron Wire, polished... ...	360 grains.
Syrupy Phosphoric Acid, Sp. Gr. 1·500	9½ ounces.
Distilled Water	8 ounces.

Place in a glass flask, so that the fluid completely covers the iron wire, plug the neck with cotton wool, and put in a warm place until dissolved. Then filter and add

Syrup (cold)	72 ounces.
Distilled Water to	96 ounces.

Mix. It is best kept in bottles quite full.

Syrupus Ferri et Manganesii Phosphatis.

May be made by dissolving ½ grain phosphate of manganese in each drachm of the last.

Syrupus Ferri Phosphatis Compositus.

Syn.—CHEMICAL FOOD PARRISH'S SYRUP.

Dose.—1 drachm.

This popular syrup is conveniently made by the following process:—

Iron Wire, polished... ...	300 grains.
Syrupy Phosphoric Acid, Sp. Gr. 1·500	8 ounces.
Distilled Water	5 ounces.

Put these into a glass flask, so that the liquid completely covers the iron wire, plug the neck with cotton wool and put in a warm place until dissolved. Add the above to the following solution when the latter has cooled

Slaked Lime	720 grains.
Syrupy Phosphoric Acid ...	4 ounces.
Distilled Water	15 ounces.

Mix and add

Carbonate of Potassium ...	72 grains.
Phosphate of Sodium ...	72 grains.

On the addition of the first solution to this a nearly perfect solution will be formed, which filter and set aside. Then take of

Cochineal in Powder ...	240 grains.
Distilled Water	3 pints.

Boil for 15 minutes and filter, pouring over the filter distilled water *q.s.* to produce 56 ounces of filtrate. To this add Refined Sugar ... ... 7 lb.

Heat till dissolved and strain. When cold, add the former filtrate, set aside, and make the whole measure 1 gallon by adding *q.s.* of distilled water. Thus made, the syrup will contain in each drachm about half a grain of Phosphate of Iron and $\frac{4}{5}$ grain Phosphate of Calcium with small quantities of the Phosphates of Potassium and Sodium. As it contains as much of the salts as will be retained in a clear solution, it should be kept in bottles quite full. It is not too nauseous to administer to children, for whom it is frequently prescribed, in teaspoonful doses.

Syrupus Ferri, Quininæ et Strychninæ Phosphatis.

Syn.—EASTON'S SYRUP.

Dose.—1 drachm, which contains phosphate of iron 1 grain, phosphate of quinine 1 grain, and strychnine $\frac{1}{32}$ grain.

The original formula was published in Aitken's Practice of Medicine, vol. ii. p. 62, 5th ed. It may be more conveniently prepared, and keeps better, if made as follows:—

Strychnine, in powder ...	8 grains.
Syrupy Phosphoric Acid Sp. Gr. 1·5	2 drachms.
Distilled Water	6 drachms.

Dissolve and add

Phosphate of Quinine ...	256 grains.

Dissolve, and add

Distilled Water to	2 ounces.

Of this take ½ drachm and add syrup of phosphate of iron prepared by previous process *q.s.* to form 1 ounce of Easton's syrup.

Caution.—The concentrated liquor should be carefully labelled, with directions how to mix it. In having the syrup of the alkaloids separate from the iron, it keeps much better. The writer finds that it is a reaction between the solution of phosphate of iron and the phosphate of quinine which causes the dark coloration which takes place in this syrup, and this independently of the presence of sugar.

Easton's syrup has its equivalent dose in the following pill, which is portable, tasteless, and readily soluble.

Pilula Ferri (1 gr.), Quininæ (1 gr.), et Strychninæ ($\frac{1}{32}$ gr.) Phosphatis.

Phosphate of Iron	16 grains.
Quinine, pure (=sulphate 16 grs.)	12 grains.
Strychnine	½ grain.
Sugar	8 grains.
Syrupy Phosphoric Acid ...	20 drops or *q.s.*

Mix quickly, having first triturated the strychnine with the phosphate, and divide into 16 pills.

FERRO-ALUMEN.

Iron Alum, T H.

Syn.—Ferri et Ammonii Sulphas, Ammonio-Ferric Alum, U.S.

Dose.—3 to 10 grains, in water.

Pale amethyst octahedral crystals, efflorescent on exposure to the air, odourless, having an acid, styptic taste, and slightly acid reaction; soluble 1 in 3 of water;

insoluble in alcohol. Is used internally to arrest hæmorrhage from the kidneys, and employed as an astringent and styptic gargle—8 grains to an ounce—also as a throat spray and pigment.

FUCHSINE.

Rosaniline Mono-Hydrochlorate.

Syn.—MAGENTA; ROSEINE.

Dose.—½ to 4 grains in a pill, with glycerine of tragacanth.

This aniline product is in brilliant iridescent beetle-coloured crystals, which form an intense deep-red solution in water. Fuchsine is much used for staining histological preparations, and has been used medicinally. It should be specially prepared for this purpose, and free from arsenic, otherwise it always contains this poison in variable quantity, owing to the process of its manufacture.—M.T.G. i./70,617.

Useful in renal albuminuria, given in 1 to 4-grain doses in pills.—Pr. xxvi.302; B.M.J. ii./79,947.

Use of a solution of this colour, between glass plates in remedying some forms of colour-blindness.—Pr. xxiv.133.

In albuminuria, gave better results than any other medicinal treatment; the albumen diminished considerably, or disappeared, while Fuchsine was given in 1-grain doses; the urine was coloured by it, and often the stools.—Pr. xxvi.40.

Employed in staining the bacillus of tubercle for microscopic examination. — B.M.J. i./82,916; B.M.J. i./82,735,786,1156; L. ii./82,183,1078,1138.

FUCUS VESICULOSUS.

Bladder Wrack.

Syn.—SEA WRACK.

Preparations of this sea-weed, being rich in iodine, bromine, and chlorine salts, have for a long time had the reputation of being useful in reducing corpulency. A liquid extract of it has of late been advertised and sold as "Anti-fat."

Preparations.

Extractum Fuci Vesiculosi.

Dose.—3 to 8 grains before meals, conveniently given in 4-grain pills, with althæa. It is exhausted by a semi-alcoholic menstruum.

Extractum Fuci Vesiculosi Liquidum.

Dose.—1 or 2 drachms before meals.

References.

Combined with liquor potassæ, reduced the fat of a lad who had suddenly become very corpulent.—Pr. xvi.312.

The extract, in 4-grain doses three times a day, given to lessen fat, with good results.—B.M.J. i./79,881.

Extract given with good results; does not produce dyspepsia or diarrhœa.—B.M.J. i./79,960.

Pills, 4 grains in each, three times a day, given for obesity, acted as a diuretic; did not diminish the weight. —B.M.J. ii./79,315.

An obese man was diminished.—B.M.J. ii./79,482.

A lady lost 20 lb. in 9 weeks when taking the liquid extract; and a gentleman 8 lb. in 6 weeks; another 8 lb. in 3 weeks, without bad results.—B.M.J. ii./79, 482.

GELSEMIUM.

Syn.—GELSEMINUM.

The dried rhizome and rootlets of "yellow jasmine" —*Gelsemium nitidum* (*G. sempervirens*, Aiton)—imported from the United States, must be distinguished from the yellow jasmine cultivated here, which is a species of *Jasminum*. Gelsemium is said to have febrifuge properties, as it lowers the pulse and depresses the nervous system. It has been much used in acute and rheumatic neuralgia, and toothache. It is a powerful paralyzer and respiratory poison. Large doses contract the pupil and cause giddiness and diplopia. It contains, in combination with gelsemic acid, the alkaloid

Gelsemina, Gelsemine.

Dose.—$\frac{1}{60}$ to $\frac{1}{20}$ grain.

Is met with in commerce as a yellowish brown amorphous powder, with a bitterish taste, odourless, sparingly and slowly soluble in water, easily soluble in alcohol, ether, and dilute acids. Applied locally, i dilates the pupil of the eye. Gelsemine and its salts hav lately been crystallized.—P.J. 1883,641.

Gelseminæ Hydrochloras, Gelsemine Hydrochlorate.

Dose.—$\frac{1}{60}$ to $\frac{1}{20}$ grain.

In white, granular crystals, freely soluble in water.

Liquor Gelseminæ Hydrochloratis.

Hydrochlorate of Gelsemine ...	1 grain.
Distilled Water	1 drachm.

Dose.—Hypodermically 1 to 3 minims. Useful in facial neuralgia. The solution is likewise recommended for quickly dilating the pupil previous to Ophthalmoscopic Examination. The maximum dilatation occurs in 50 to 70 minutes, and, as its action is not so prolonged as that of atropia, the inconvenience of a dilated pupil more rapidly subsides.—L. i./77,832 ; B.M.J. ii./79,362.

Gelsemin.

Dose.—½ to 2 grains in a pill, with spirit and glycerine.

The powdered alcoholic extractive of a pale brown colour obtained from Gelsemium root. Must be distinguished from the alkaloid. Useful in neuralgia and as an hypnotic.

Extractum Gelsemii Alcoholicum (*Off.*).

The powdered drug is percolated with rectified spirit, displaced with water, and the tincture evaporated to an extract. Is intended as the official equivalent of Gelsemin (see above).

Dose.—½ to 2 grains.

Pilula Butyl-Chloral cum Gelsemina.—See p. 100.

Tinctura Gelsemii (*Off.*).

Gelsemium Root	1 ounce.
Proof Spirit	8 ounces.

Dose.—5 to 30 minims, often given in combination with bromide of ammonium or potassium for neuralgia. The tincture has a pale brown colour and a fluorescent surface.

References.

Neuralgia, cases of, treated with good results.—L. i./73,731.

Neuralgia of face and jaws associated with carious teeth—15 minims of the tincture every 6 hours rarely fails to give relief.—Pr. xv.115.

For neuralgia 5 to 15 minims 3 times a day.—B. and F.M.C.R.lvii.474.

Physiological effects, experiments and investigations of, &c.; is an antidote to strychnine.—L. ii./75,907; L. i./76,182,24,415,489,561,661,732; L. ii./76,569; L. i./78,858,892,953.

Dilates the os uteri in the non-puerperal state.—Pr. xviii.131.

Valuable remedy for rigid os during labour.—M.R. 1879,186.

Checks the hectic of consumption.—Pr. xxiii.375.

Dilates the pupil, used locally, whilst the internal use contracts it. Used with decided success in neuralgia of the dental nerves, even when the teeth are carious.—R.

Relieves maxillary neuralgia, but leaves frontal unaffected; 20 minims of tincture for a dose, repeat in 1½ or two hours. If a third dose is required, its use is contra-indicated.—L. ii./75,660.

In neuralgia of the fifth pair of nerves 20 minims every half-hour up to three doses. Specially useful in rheumatic neuralgia of the gums.—Br. ii./79,xxiv.

Death from 2 ounces of tincture.—L. i./82,74.

Case of traumatic tetanus treated by Gelsemium with recovery.—B.M.J. ii./82,1245; B.M.J. i./83,9.

Diplopia and ptosis may be caused by large doses.—B.M.J. ii./83,323.

GINGERIN.

Dose.—¼ to 1 grain, in a pill or much diluted with spirit.

In commerce this is the crude liquid oleo-resin obtained from ginger, the rhizome of *Zingiber officinale*. It has the colour and consistence of treacle, with an aromatic and very pungent taste. Is a useful addition to purgative pills as a corrective to prevent them griping.

GLYCERINUM.

Glycerine (*Off.*).

Dose.—10 minims to 2 drachms.

Preparations—Official.

Glycerinum Acidi Carbolici	1 to 4
Glycerinum Acidi Gallici (by water bath)...	1 to 4
Glycerinum Acidi Tannici (by water bath)	1 to 4
Glycerinum Aluminis	1 to 5
Glycerinum Amyli (heated)	1 to Glycerine 5, Water 3
Glycerinum Boracis ...	1 to Glycerine 4, Water 2

Stronger solutions of carbolic and tannic acids are sometimes preferred. As a throat pigment, and for uterine application, that of tannic acid may be used double the above strength—1 to 2 of Glycerine. Glycerine of borax is not a mere solution, it has an acid reaction, and when mixed with an alkaline carbonate evolves carbonic acid.

Glycerinum Aluminis is a useful astringent pigment in chronic pharyngitis; is less disagreeable than tannin.—B.M.J. i./85,178.

Unofficial.

Boroglyceride.—See Acidum Boricum, p. 36.

Glycerinum Aluminis et Acidi Tannici.

Potassium Alum (free from iron), in powder	1 ounce.
Glycerine	6 ounces.

Heat to dissolve, and add

Tannic Acid...	1 ounce.

This forms a solution which is a very astringent throat pigment; has the advantages of a gargle without destroying the appetite. An ounce to a pint of tepid water forms a useful astringent vaginal injection.

Glycerinum Belladonnæ.—See Belladonna, p. 95.

Glycerinum Bismuthi Nitratis.

Nitrate of Bismuth, in crystals ... (true nitrate.)	60 grains.
Glycerine	1 ounce.

Dissolve without heat. Used as stimulant application in eczema. P.J. 1874,389,470,484,508.

Glycerinum cum Aquâ Rosæ.

Glycerine	2 ounces.
Rose Water, prepared with Otto	3 ounces.

Mix. An agreeable emollient for the skin.

Glycerine Jelly, for the Hands.

Gelatine	140 grains.
Rose Water	6 ounces.

Soak a few minutes, and heat in a water-bath to dissolve, add, when cool but still fluid,

White of Egg	$\frac{3}{4}$ ounce.

Heat to coagulate completely, and add

Glycerine	6 ounces.
Salicylic Acid	12 grains.

Mix well, filter through a hot-water funnel, and bottle while warm. A harder jelly, for microscopic purposes, is prepared in a similar manner.

Glycerinum Hydrargyri Perchloridi.—contains $\frac{2}{3}$ grain in 1 minim.—See p. 203.

Glycerinum Iodi.—See Iodum, p. 216.

Iodo-Glycerine Solution.—See Iodum, p. 217.

Glycerinum Olei Ricini.

Equal volumes of Castor Oil and Glycerine are emulsified by adding the oil gradually, triturating thoroughly, to the Glycerine contained in a mortar; a semi-solid compound is formed, which, when flavoured with essential oil of almond or lemon, is not nauseous, and as a purge does not lose its effect.—L. i./83,263,303; Pr. xxx., 65.

Dose.—A teaspoonful, or more.

Glycerinum Plumbi Subacetatis (*Off.*).

Syn.—Pigmentum Plumbi—Glycerole of Subacetate of Lead.—B.S.H.

Acetate of Lead	5 ounces.	℥i
Oxide of Lead, in powder ...	$3\frac{1}{2}$ ounces.	ʒii
Glycerine	20 ounces.	℥iv
Distilled Water	12 ounces.	℥ii

Mix together, and boil for a quarter of an hour; then filter and evaporate to one pint. This is the same strength as Goulard's Extract—Liquor Plumbi Subacetatis, B.P., with glycerine for the solvent in place of water; it keeps much better than, and does not deposit like, the latter.—P.J. 1876,881.

This pigment is useful as an astringent and sedative in cases of chronic eczema. It should first be applied diluted 1 part with about 7 of glycerine, and the strength gradually increased; it desiccates the eruption without producing a hard crust. It may also be diluted with four parts of milk as a lotion for eczema, but this Lotion, **Lotio Plumbi cum Lacte** is generally made with liquor plumbi subacetatis, 1 or 2 drachms to the ounce of milk, with a little Eau de Cologne added.—Br. ii./82,225.

The glycerole has also been found useful. in some uterine affections, applied on absorbent wool, diluted as above.

Unguentum Glycerini Plumbi Subacetatis (*Off.*).

Syn.—UNGUENTUM PLUMBI SUBACETATIS CUM PARAFFINO, R.O.H.

Glycerine of Subacetate of Lead	$4\frac{1}{2}$ ounces.
Soft Paraffin	18 ounces.
Hard Paraffin...	6 ounces.

Melt the paraffins together, add the glycerine of lead, and stir till cold. This preparation is equivalent to the old Goulard's cerate; the latter is prone to become rancid, whereas the above will keep indefinitely. It is found a most useful application in chronic eczema, ulcerated legs, &c. It can be kept constantly applied on lint or rag, as it does not become absorbed by the dressing, or stick to the sore, but comes off clean on removing the lint. It is useful also in tinea tarsi.

Glycerinum Tragacanthæ (*Off.*).—See Tragacantha, p. 330.

Glyco-gelatine, T.H.

Refined Gelatine	1 ounce.
Glycerine (by weight)... ...	$2\frac{1}{2}$ ounces.
Ammoniacal Solution of Carmine	*q.s.*
Orange Flower Water ...	$2\frac{1}{2}$ ounces.

Soak the gelatine in the water for two hours then heat in a water-bath till dissolved, add the glycerine, and stir well together. Let the mixture cool, and when nearly cold add the carmine solution, mix till uniformly coloured, and set aside to solidify.

Glyco-gelatine affords a ready method of prescribing lozenges to meet the requirements of individual cases; one ounce of the mass will make twenty-four pastils; it is medicated by melting in a water-bath, and the medicament added; or this, if insoluble, is first rubbed with a little glycerine, and then mixed with the hot basis, and cooled by pouring into an oiled tray, and, when solidified, cut into the required number of pastils. Pastils are specially suited to cases of inflammation of the tongue or palate, and their gelatinous nature gives much relief in dryness of the throat. The following list may be kept prepared :—

Pastillus	Acidi Borici, T.H. ...	gr.2
,,	Acidi Carbolici, T.H. ...	gr.$\frac{1}{2}$
,,	Aconiti Tinct.	m.i.
,,	Ammonii Chloridi, T.H.	gr.2
,,	Bismuthi Carbonatis, T.H.	gr.3
,,	Bismuthi Carbonatis, T.H. Morphinæ Acetatis ...	gr.3 gr.$\frac{1}{40}$
,,	Bismuthi Carbonatis, T.H. Potassii Chloratis ...	gr.3 gr.2
,,	Cocæ Extracti	gr.2$\frac{1}{2}$
,,	Cocainæ Hydrochloratis	gr.$\frac{1}{20}$
,,	Hydrargyri Perchloridi ... Potassii Chloratis ...	gr.$\frac{1}{20}$ gr.3
,,	Iodoformi, T.H. ... (more or less if prescribed.)	gr.1
,,	Morphinæ Acetatis ...	gr.$\frac{1}{40}$
,,	Potassii Chloratis ...	gr.2
,,	Thymol	gr.$\frac{1}{32}$

Mass for Pessaries.

Gelatine ... ... 1 ounce.

Immerse in four ounces of water for a few seconds, drain, and in half an hour add

Glycerine ... ... 4 ounces.

Dissolve in a water-bath. Should weigh six ounces.

GLYCYRRHIZA.

Liquorice (*Off.*).

Dose of root, in powder.—5 to 20 grains or more.

Preparations.

Extractum Glycyrrhizæ (*Off.*).

Dose.—5 grains to 1 drachm.

Extractum Glycyrrhizæ Liquidum (*Off.*).

A fluid formed of the above contains $\frac{1}{8}$ of its volume of rectified spirit.

Dose.—20 minims to 1 drachm.

Glycyrrhizinum Ammoniatum.—Ammoniated Glycyrrhizin, U.S.

Dose.—$\frac{1}{2}$ to 5 grains, or more.

Glycyrrhizin, the sweet principle of liquorice, is precipitated, from solution in water, by acids. It is contained in the root as an ammoniacal compound. The medicinal Ammoniated Glycyrrhizin is obtained from the root by exhausting with water, boiling the solution to coagulate albumen, precipitating with sulphuric or hydrochloric acid; the precipitate is collected, well washed, and redissolved in ammonia water, the solution filtered, evaporated, and dried on glass plates. It forms garnet-coloured, shining scales like tartarated iron, and possesses the persistent sweet taste of liquorice. A grain will flavour 6 ounces of water.—P.J. 1875,53.

The before-mentioned preparations of liquorice are useful for covering the taste of nauseous drugs given in a liquid form, such as chloride of ammonium, sulphate of magnesia, sulphate of quinine, ipecacuanha, and aloes. In tincture of aloes, liquorice effectually disguises the bitter taste; it is also added, for the same purpose, to Mistura Sennæ Composita, Decoctum Aloes Compositum, Confectio Sennæ, and as a demulcent is used in Infusum Lini.

In addition to the official extracts, dried extracts are largely imported from Italy and Spain, known as Liquorice Juice or Spanish Liquorice, that bearing the stamp of Solazzi being most prized. There are also prepared in England, Liquorice Lozenges, known as Pontefract Cakes, and the same substance in sticks about the thickness of a quill known as Pipe Liquorice.

Pulvis Glycyrrhizæ Compositus (*Off.*).

Syn.—Pulvis Liquoritiæ Compositus, P.G.; Pulvis Pectoralis (*Kurellæ*).

Senna, in powder	of each ...	2
Liquorice, in powder		
Fennel, in powder	... ...	1
Washed Sulphur	... ...	1
White Sugar, in powder	... ...	6

Mix. *Dose.*—30 grains to a drachm or more, mixed with water or milk, taken early in the morning, is a mild and agreeable laxative. For constipation and hepatic disease, it is pleasant to take, and effectual without catharsis.—Pr. viii.276.

GOKHRU.

Syn.—Gokeroo (*Hindi*).

The fruit of *Pedalium Murex*. It is employed in India as a remedy for nocturnal seminal emissions, incontinence of urine and impotence.—Pr. xvii.381.

The capsule is very prickly, and both it and the seeds are rich in mucilaginous matter.

Infusum Gokhru.

Gokhru Fruit...	1 ounce.
Boiling Distilled Water ...	1 pint.

Macerate 2 hours and strain, pouring over the contents of the strainer water *q.s.* to produce 1 pint, which forms a daily dose, and should be freshly prepared.

GOSSYPIUM.

Cotton Wool (*Off.*).

Beside **Pyroxylin, Gun Cotton** (*Off.*)—the following preparations of cotton are in use:—

Gossypium Absorbens, now the *official* **Cotton Wool,** is much employed as a wound-dressing. It is prepared by alternately treating bleached cotton with diluted hydrochloric acid and solution of soda and well washing afterwards. A sheet of this wool between layers of gauze is sold as **Absorbent Gauze and Cotton Wool Tissue**; the same made into **Balls** is recommended for surgical use in place of sponges.—L. i./83,1003.

Gossypium Acidi Carbolici.—See p. 39.

Gossypium Acidi Salicylici, 4 per cent.—See Acidum Salicylicum, p. 59.

Gossypium Camphoræ Salicylatæ, 8 per cent. See Camphora Salicylata, p. 111.

Gossypium Iodoformi, 4, 10, and 50 per cent.—See Iodoform, p. 214.

In T.H. the following are recommended for aural affections:—Gossypium Acidi Borici, containing 50 per cent.; Gossypium Acidi Tannici, 33 per cent.; Gossypium Aluminis, 30 per cent.; Gossypium Camphoræ, 33 per cent.; Gossypium Cubebæ; Gossypium Ferri Perchloridi; Gossypium Hamamelidis; Gossypium Iodi; Gossypium Iodoformi, 50 per cent.; Gossypium Krameriæ; Gossypium Opii.

Tinctura Gossypii Radicis (Squire).

Dried bark of root of cotton plant 1, proof spirit 4.

Dose.—1 drachm 3 times a day as an emmenagogue and parturient.

An infusion is often preferable to ergot in labour.—L. ii./84,558.

GRINDELIA.

Gum Plant.

The dried herbs *Grindelia robusta* and *G. squarrosa*—the latter is most commonly used—form the Californian remedy for asthma. In America, this drug has been found very useful in reducing the frequency and violence of the spasmodic attacks which occur in asthma, whooping-cough, and bronchitis.

The involucre, and often the leaves, are coated with a glutinous oleo-resin.

Extractum Grindeliæ.

Obtained by exhausting the drug with alcohol, and distilling off the spirit.

Dose. 2 to 3 grains in a pill with lycopodium, three times a day.—R.

Extractum Grindeliæ Fluidum.

Prepared by exhausting the drug with rectified spirit, so that a fluid ounce represents an ounce of the drug.

Dose. 10 to 30 minims at the onset of a paroxysm of asthma, and repeated every half-hour or hour, in sweetened water or milk else the resin separates and sticks to the vessel. Useful for whooping-cough, 10 minims every 2 hours.—P.J. 1878,582.

Useful in whooping-cough and bronchitis, and of singular efficacy in asthma. We have been informed of several cases occurring in aged persons, in which half a teaspoonful of the fluid extract afforded almost instantaneous relief.—Stillé and Maisch.

The fluid extract is also applied topically in America as a remedy for the poisoning of *Rhus toxicodendron.*

GUARANA.

Guarana.

Dose.—10 to 60 grains in powder, or infused in a cup of boiling water.

The seeds of *Paullinia sorbilis*, roasted and moistened with water, made into a hard paste, and rolled into cylinders, and dried. Imported from Brazil. The drug contains about 5 per cent. of a crystalline principle, **Guaranine,** which is identical with caffeine, together with tannin, gum, &c. Guarana has been recommended particularly for sick-headache. Guaranine may be taken as caffeine. *Dose.*—½ to 5 grains, or more.

Elixir Guaranæ.

Tincture of Guarana and Simple Elixir in equal quantities, diluted with water, forms an agreeable draught.

Dose.—One drachm.

Tinctura Guaranæ. *Dose.*—½ to 1 drachm.

Macerate Guarana 1 ounce, in proof spirit, *q.s.* to produce 4 ounces.

Useful in sick-headache.—B.M.J. i./72,421.

Contains double as much caffeine as tea, and five times as much as coffee; is a nervine tonic.—L. ii./70,581.

For sick-headache, 30 to 60 grains is a certain remedy. Useful also in diarrhœa and dysentery.—L. ii./72,313,507.

HAMAMELIS.

Witch Hazel.

The bark of *Hamamelis Virginica*, Witch Hazel, or Winter Bloom, imported from the United States of America. Possesses powerful astringent properties for checking hæmorrhages and excessive mucous discharges, yet its properties are not due to tannin (of which it only contains traces) or gallic acid. It forms the basis of the American nostrums—Pond's Extract, and Hazeline.

Hamamelin. *Syn.*—Hamamelidin.

Dose.—½ to 2 grains in a pill, with mucilage of acacia. It is the powdered extractive from the above of a purplish-brown colour. One grain in a suppository, with cocoa butter, is useful in curing piles.

Tinctura Hamamelidis.

Witch Hazel Bark ...	...	1 ounce.
Proof Spirit ...	...	10 ounces.

Dose.—2 to 5 minims or more.

A tincture imported from America is generally prepared with a slightly stronger spirit.

A valuable hæmostatic, very serviceable in hæmoptysis, hæmorrhoids, menorrhagia, in fact in all passive hæmorrhage, and what is known as the hæmorrhagic diathesis. As an injection for bleeding piles, 1 drachm of the tincture in 3 ounces of cold water should be given as an enema, and retained, at bedtime or before breakfast, every day; or the following ointment applied locally.—R.

A dose of tincture should be given 3 times a day by the mouth. Useful in threatened miscarriage.—Stillé and Maisch.

A lotion of 1 or 2 drachms with water to an ounce, is a useful application to bruises and small wounds.

Unguentum Hamamelidis.

Tincture of Hamamelis	...	1 drachm.
Simple Ointment ...	...	10 drachms.

Mix for use as an ointment for piles.

Witch Hazel plasters are also made in rubber combination for covering varicose veins.

Letters on its uses and chemical constituents.—L. ii./79,303,337,486.

Useful in piles as a lotion 3 or 4 times a day, and a piece of lint dipped in the Hazeline applied to the anus during the intervals.—B.M.J. i./81,965.

Hæmorrhage from bowel, an ounce of hazeline used as a rectal injection with success.—B.M.J. i./85,227.

Menorrhagia is controlled by 1 drachm of hazeline three times a day.—Pr. xxxiii.141.

In menorrhagia, given without obvious advantage.—B.M.J. ii./84,810.

HYDRARGYRUM.

Hydrargyri Cyanidum, Cyanide of Mercury.

Syn.—Bicyanide of Mercury.

Dose.—$\frac{1}{20}$ to $\frac{1}{4}$ grain.

Is in anhydrous, white or colourless, prismatic crystals, soluble 1 in 8 of water. It is not decomposed by alkalies; is poisonous, and has a nauseous metallic taste. It is used as a lotion to syphilitic sores, and given in pills of $\frac{1}{10}$ or $\frac{1}{12}$ grain twice daily.

Hydrargyri Oleatum.—See p. 250.

Hydrargyri Perchloridum (*Off.*); **Hydrargyri Chloridum Corrosivum, U.S.**; Corrosive Sublimate.

Dose.—$\frac{1}{16}$ or less, to $\frac{1}{8}$, increased to $\frac{1}{4}$ grain.

The officinal preparations are Lotio Hydrargyri Flava (18 grains to lime water 10 ounces), and Liquor Hydrargyri Perchloridi, which has Perchloride of Mercury and Chloride of Ammonium of each 1 grain in 2 ounces.*

The researches of Koch and others having proved this corrosive poison to be the most powerful antiseptic, solutions of it have of late been much used as surgical dressings; it is soluble 1 in 16 of water, 1 in 4 rectified spirit, 2 in 3 of glycerine (by weight). A solution 1 in 1,000 of water, or preferably an equivalent quantity of the **Glycerine Solution** 2 in 3, one drachm (fluid) to 4 pints, is recommended as a lotion. As dressings, lint, absorbent wool, gauze, or wood wool (*see* p. 343) may be impregnated with $\frac{1}{2}$ per cent. of each, corrosive sublimate and glycerine.—L. i./84,346; B.M.J. i./84,364; B.M.J. ii./84,803; L. ii./84,723, 740, 801, 899.

For eye lotion, 1 grain in 8 ounces.—R.O.H.

For gonorrhœa and gleet, 1 to 2 gr. in 8 ounces recommended.—Edin. Med. Jour. 1884,756; M.P.C. i./84,194.

For ear discharges, syringing with 1 in 10,000 is antiseptic.—Edin. Med. Jour. 1884,665. This solution is recommended as a pigment in diphtheria.—M.P.C. i./84,340.

Summary of antiseptic uses.—1 in 10,000 destroys micrococci and bacilli, 1 in 1,000 destroys their spores;

The writer has shown this is not a mere solution of the Perchloride; a double salt is formed, ammonio-mercuric chloride or *Sal Alembroth*, with an excess of chloride of ammonium present. The solution, if prepared with common water (containing carbonate of lime) in place of distilled, or if even diluted with common water, lets fall a white precipitate,—if diluted much scarcely a trace of mercury is left in solution. It is better to use a simple solution of the Perchloride of the same strength, in common or distilled water it forms a stable solution.—P.J. 1870.544.

this may therefore be used for infected linen, the walls and floors of infected rooms, the hands of surgeons and gynæcologists, and as a lotion to superficial wounds. For continuous applications, 1 in 10,000 forms an active lotion, and 1 in 500, with the same quantity of permanganate of potassium, is an efficient disinfector of an equal bulk of liquid fœcal infected discharges, if in contact not less than two hours.—L. i./85,721.

Tinea destroyed by solution of 3 grains in an ounce of spirit of nitrous ether.—B.M.J. i./85,434.

In bronchitis with offensive expectoration, $\frac{1}{6}$ of a grain to 3 ounces of water useful as a spray inhalation.—Pr. xxxiii.731.

Hydrargyri Tannas, Tannate of Mercury; Mercurous Tannate.

Dose.—1$\frac{1}{2}$ gr. in a pill with syrup and tragacanth. Should it cause diarrhœa in weakly patients add $\frac{3}{4}$ grain of tannic acid to each, or $\frac{1}{12}$ grain of powdered opium.

This new remedy for syphilis introduced by Lustgarten of Vienna is in dark green, odourless and tasteless powder or scales, containing 50 per cent. of mercury. It is not soluble without decomposition, and not materially affected by diluted hydrochloric acid, but easily so by alkalies and their carbonates, separating a magma containing very minute particles of mercury. It is thought that under the influence of the alkaline intestinal juice mercury is thus absorbed through the membrane of the intestines in the same manner as when rubbed into the skin. When taken internally a rapid introduction of mercury into circulation has been observed, it being always found in the urine 24 hours after; yet all disagreeable symptoms so often accompanying the use of mercurials are absent, while the results obtained in various stages of syphilis have been so rapid and favourable as to safely place it by the side of the best mercurials—the ointment included.—L. i./84,723; P.J. 1884,777.

Unguentum Hydrargyri Oxidi Flavi.

Syn.—PAGENSTECHER'S OINTMENT.

Yellow Oxide of Mercury	30 grains.
Vaseline	1 ounce.

Used for inflamed eyelids, &c.

HYDRASTIS.

Golden Seal, U.S.

Syn.—Yellow Root, Yellow Puccoon, Orange Root, Indian Dye, Indian Turmeric.

Dose.—10 to 30 grains.

The rhizome with the rootlets of *Hydrastis Canadensis.* The rhizome is about 1½ in. long by ¼ in. thick, externally yellowish-grey, fracture short, waxy, with bright reddish-yellow colour, has slight odour and bitter taste. It possesses tonic stomachic properties, is used in intermittent fevers, and causes uterine contraction. It contains a quantity of berberine (see below), and the alkaloid,

Extractum Hydrastis Fluidum, U.S.

Dose.—5 to 30 minims; 1=1 of root.

Hydrastina, Hydrastine.

Dose.—½ to 5 grains, in pill with glycerine of tragacanth, or acidulated solution.

In white prismatic crystals resembling strychnine in appearance, insoluble in water but soluble in alcohol, chloroform, and ether, taste very bitter. Used in fever cases, especially in typhus.

Hydrastinæ Hydrochloras.

Dose.—½ to 6 grains.

A crystalline soluble salt; is used in fevers, like the pure alkaloid.

Hydrastin.—Eclectic Remedy.

Dose.—2 to 6 grains, in a pill with glycerine of tragacanth and powdered acacia.

Consists principally of Hydrochlorate of Berberine, with extractive; has a bright yellow colour, and is aperient, cholagogue, stomachic, and tonic; is also used as a dressing to ulcers, acting as an antiseptic. Likewise used in gonorrhœa and leucorrhœa.

A tonic and moderately powerful biliary and intestinal stimulant.—Pr. xxiii.337; B.M.J. ii./78,31.

Therapeutic study of its uses: 3 to 6 grains in a pill, followed by effervescing sulphate of soda, is a useful biliary stimulant.—B.M.J. ii./80,746; Pr. xxvi.121.

In eczema, 5 to 20 grains to an ounce of lard has proved of service.—L. ii./85,87.

Tinctura Hydrastis.

One in 10 of proof spirit.

Dose.—30 to 60 minims or more.

In gastric catarrh from chronic alcoholism is about the best substitute for the stimulant when this is abandoned. Useful in atonic dyspepsia, habitual constipation due to inaction of the liver, and in general debility it is very efficacious, its action being not unlike that of quinine. It also is employed as an injection for gonorrhœa, 2 drachms to a pint of water used very frequently at first. As a lotion it is employed in chronic inflammation of the mucous membranes, also for cracks and fissures of the nipple.—B.M.J. ii./80,746.

Uterine hæmorrhage from various causes—50 cases treated with fluid extract of hydrastis, 20 drops three times a day, results in two-thirds of the cases very satisfactory.—L. ii./84,208.

HYDROGENII PEROXIDUM.

Hydrogen, Peroxide of.

Syn.—Hydroxyl, in Aqueous Solution.

Dose.—$\frac{1}{2}$ to 2 drachms.

Solution of Peroxide of Hydrogen may be prepared by adding gradually, hydrated peroxide of barium to diluted sulphuric acid, filtering out the sulphate of barium, and neutralising the liquid with baryta water, on again filtering, a nearly pure solution of Hydroxyl is obtained. A less pure solution may be made by passing CO_2 through water containing, in suspension, hydrated peroxide of barium, and filtering out the carbonate. It is made for medical purposes to contain ten volumes of available oxygen when decomposed—*i.e.*, 1 c.c. will evolve 10 c.c. of oxygen, or 1·45 per cent. of its weight, = 3·04 per cent. of H_2O_2. It is also made commercially two and three times this strength. Peroxide of Hydrogen is produced naturally in many ways, as by the rapid oxidation of some essential oils, oil of turpentine, oil of eucalyptus, &c. It forms the active ingredient in the disinfectant known as Sanitas (see p. 284). The solution possesses disinfecting and bleaching properties (is much used for bleaching ladies' hair to the fashionable colour), has a harsh, bitter taste, is odourless, or nearly so. It has the second atom of oxygen in a very loose state of combination. It readily decomposes, especially in contact with a metallic oxide, such as that of silver or manganese, these if moist, and freshly precipitated, cause oxygen to be briskly evolved from it. Ether restrains this decomposition, and this fact is made use of for the production of

Ozonic Ether.

Dose.—½ to 1 drachm.

Ether containing in solution peroxide of hydrogen of 30-volume strength with some alcohol. It is miscible with water, possesses properties similar to the above, and is more stable. In conjunction with tincture of guaiacum, it is employed as a test for blood; it changes the colour of the blood to blue; but gluten, casein, &c., do the same. Peroxide of Hydrogen, and Ozonic Ether have been given internally for diabetes and whooping-cough, and Ozonic Ether used locally for scarlet fever.

Statement of the chemistry and properties of Peroxide of Hydrogen, advises its trial in diabetes and fever, as an antidote to the alkaloids and as an application to foul sores. —L. ii./60,390.

Of great value as a deodoriser.—M.T.G. ii./75,449.

Promotes glandular secretion, useful in diabetes and dyspnœa; suggests trial in epilepsy.—M.T.G. i./71,162.

Lecture suggesting its medical uses in diabetes, rheumatism, cardiac disease, and struma.—M.T.G. ii./68,661.

Its use in albuminuria following scarlatina, pregnancy, and pneumonia.—B.M.J. i./81,575.

Ozonic Ether, in half-drachm doses, 3 times a day, cured cases of diabetes; it oxidises the sugar. — L. i./68, 45; L. ii./68,526; M.T.G. ii./68,680.

For purulent discharges, is a local astringent and antiseptic, colourless, odourless, painless, does not stain and is not poisonous.—Pr. xxxii.196.

Antiseptic Ointment of Ozonic Ether (Day).

Ozonic Ether	4 drachms.
Lard	4 ounces.
Benzoic Acid	20 grains.
Otto of Roses	4 drops.

Mix without heat. Used for inunction over the whole surface of the body three times a day for about three weeks, with success to prevent spreading of scarlet fever in a number of cases, and ½ an ounce of the ether to a pint of water, used as a gargle or given as a mixture in frequent doses.—M.T.G. i./77,256.

Oxygen and **Oxygen Water.**

Are much used in Paris medically. The oxygen is obtained from atmospheric air by first dehydrating and decarbonising it with quicklime; the oxygen is then separated from the nitrogen by being absorbed by caustic baryta exposed under pressure to a high temperature; the peroxide of barium formed yields pure oxygen on being heated at a lower temperature; it is used medically to inhale pure, or water aërated with it supplied in syphons or bottles, is drunk as an exhilarating beverage, and as a remedy for dyspepsia, diabetes, &c.

HYDROQUINONE.

Syn.—Hydrochinon (German).

Dose:—?

An isomeride of Resorcin and Pyrocatechin. May be prepared from quinic acid by dry distillation, but is principally obtained as a derivative of coal tar. It is neutral, inodorous, has a sweetish taste, soluble 1 in 20 of water, soluble also in alcohol and ether, and slightly so in olive oil. It possesses stronger antiseptic and antipyretic properties than Resorcin. Gramme doses cause symptoms of excitement like Resorcin. It causes no local irritation injected hypodermically, is particularly suitable as an antiseptic in eye operations, useful also in infectious parasitic corneal ulcers, lessens the secretions, dose not irritate the conjunctiva or cornea, and has a certain antiseptic action on the diphtheritic process. Like carbolic acid as an antifermentative, and boric acid in the little irritation it causes.—L. i./82,78.

HYOSCYAMINA.

Hyoscyamine.

Dose.—$\frac{1}{120}$ to $\frac{1}{40}$ grain, in cases of mania increased to $\frac{1}{16}$ or $\frac{1}{8}$ grain or more, dissolved in water by means of diluted sulphuric acid, or in a pill.

The pure alkaloid is in snow-white masses of minute crystals, without odour, soluble 1 in 120 of water, freely soluble in spirit, and is alkaline to test-papers; but the author found in this respect it has less than half the neutralising power of Atropine. According to Ladenburg, Hyoscyamine is identical with "light atropine" and "light daturine" (see Atropine) as well as Duboisine. He also finds that Hyoscyamus contains another alkaloid, Hyoscine. As a mydriatic, it acts like atropine, but with greater intensity, while the duration of effect is about equal (P.J. 1876, 471). It is an expensive alkaloid. In addition to the crystallized alkaloid, there is in commerce

Hyoscyamine Amorphous, or Uncrystallized Hyoscyamine.

Dose.—$\frac{1}{10}$ to $\frac{1}{8}$ grain, increased, given in acute mania.

A dark brown extract-like preparation, having a strong, disagreeable odour. It is much less costly than the crystals, and the dose should be about the same.

Hyoscyaminæ Sulphas, Hyoscyamine Sulphate, U.S.

Dose.—$\frac{1}{120}$ to $\frac{1}{40}$ grain, increased.

In small white granular crystals, freely soluble in water. The sulphate of **Amorphous Hyoscyamine,** a whitish deliquescent powder, is a cheaper preparation.

Injectio Hyoscyaminæ Hypodermica.

Sulphate of Hyoscyamine ...	1 grain.
Distilled Water	2 drachms.

Dose.—1 to 4 minims.

Relieves pain of neuralgia, has cured mercurial tremor, senile trembling, and paralysis agitans.—M.T.G. ii./72, 605.

Violence in mania is controlled by 1-grain doses of the Amorphous Hyoscyamine.—Pr. xvii.7.

In chorea $\frac{1}{40}$ grain, increased to $\frac{1}{3}$, of the amorphous alkaloid, given twice a day, is effective in chronic cases.—Pr. xvii.291.

In acute mania, 1 grain of crystallized alkaloid produced sleep.—Pr. xviii.166.

In acute mania, a solution of the amorphous alkaloid, half a grain in an ounce, was used, and $\frac{1}{8}$ to $\frac{3}{8}$ grain, with dose increased, was given, well diluted with water, with good result.—Pr. xx.85.

In paralysis agitans, puerperal mania, delirium tremens, crystallized alkaloid is given in $\frac{1}{30}$-grain doses.—Pr. xxvi.124.

Resemblance to atropine in action. $\frac{1}{120}$ to $\frac{1}{40}$ grain injected hypodermically.—L. ii./76,319.

Crystallized alkaloid in dose of $\frac{1}{40}$ grain injected hypodermically produced delirium in patient addicted to morphia injections.—L. i./79,474.

In most cases of mania the amorphous alkaloid is a "chemical restraint," produces sleep in acute mania, diminishes number of attacks in epileptic mania, mind becomes clear in delusional insanity, and in chronic dementia the patient improves under small doses. Dose, $\frac{1}{16}$ to $\frac{1}{4}$ grain of the amorphous alkaloid.—L. ii./79,462, 502,540.

Use as a hypnotic and antispasmodic. Distinct effects from $\frac{1}{100}$-grain doses. Dose recommended of the amorphous alkaloid $\frac{1}{20}$ to 1 grain, of crystals $\frac{1}{100}$ to $\frac{1}{25}$ grain.—B.M.J. i./80,629; M.R. 1880,314.

Amorphous or Extractive Hyoscyamine is useful in maniacal excitement in dose of $\frac{1}{3}$ grain, increased, if necessary, to 1 grain. Sends the patient to sleep in half an hour or less.—Pr. xxvii.367; Pr. xxxii.302; Pr. xxxiii.46.

When used hypodermically, is most valuable in calming the violence of a furious maniac, or a noisy, general paralytic.—B.M.J. ii./82,1031; B.M.J. i./83,9; L. ii./84,273.

In delirium tremens, quarter of a grain every six hours found useful.—B.M.J. i./85,285.

Use in mania, $\frac{1}{16}$ grain given three times a day, increased to a $\frac{1}{10}$, $\frac{1}{8}$, or $\frac{1}{4}$ grain as single doses, requires care.—B.M.J. ii./85,629.

INGLUVIN.

Dose.—5 to 10 grains.

A special American preparation, said to be prepared from the gizzard of the domestic fowl, *Pullus Gallinaceus.* Recommended as a substitute for pepsin, and for the cure of obstinate vomiting, especially the vomiting of pregnancy.

Experiments showing that Ingluvin had little or no digestive action on coagulated egg-albumen.—Pr. xxiv.192.

INULA.

Elecampane.

From the root of *Inula Helenium,* which is rich in INULIN, a peculiar body allied to starch, is obtained a crystalline camphor or stearoptene:—

Helenin.

Dose.—$\frac{1}{3}$ to 2 grains.

Is in light white acicular crystals, like sulphate of quinine in appearance; has a faint odour and aromatic taste; melts at 162° F.; is insoluble in water, but freely so in alcohol. According to Kallen (mentioned in Pharmacographia), it can be separated into two distinct crystalline bodies—one he names true Helenin and the other Alant Camphor. The crude Helenin is a powerful antiseptic; arrests putrefaction 1 in 10,000. In Spain, it has been much used as a surgical dressing. Ferran says it is more destructive to the cholera bacillus than any other agent. It is useful in ozœna—keeps away insects, especially mosquitos. Internally used with success in malarial fevers, tubercular, infantile, and catarrhal diarrhœa. It is somewhat costly.—L. i./85,673; P.J. 1885,890. Useful to diminish secretion, especially of the lungs; recommended for bronchitis.—Pr. xxxiv.57.

IODOFORMUM.

Iodoform (*Off.*).

Dose.—$\frac{1}{2}$ to three grains or more gradually increased.

Prepared by the action of iodine on a hot solution of carbonate of sodium or potassium in diluted alcohol. It is in shining yellow hexagonal crystalline scales, having a persistent disagreeable odour resembling that of saffron. Soluble 1 in 8 of absolute ether, 1 in 10 of ether (Sp. Gr. 0·735), 1 in 12 of chloroform, 1 in 80 of rectified spirit, 1 in 14 of oil of eucalyptus, 1 in 10 of collodion, 1 in 60 of vaseline and oil of almonds, and about the same in fats and other fixed oils. It is insoluble in water.

Iodoformi Pulvis, as sold, is in reality in very minute crystals. It is preferred for surgical purposes, as it does not clot, but can be dredged on the diseased part.

Iodoformum Præcipitatum, or precipitated Iodoform, is a primrose yellow coloured impalpable powder. It has a slight tendency to form clots. It is used for dusting on sores.

Iodoform possesses powerful antiseptic as well as slight anæsthetic or sedative properties. It is most poisonous to the virus of syphilis and gonorrhœa, and, although it contains nine-tenths of its weight of pure iodine, it is not an irritant, like the latter, either taken by the stomach or applied topically. It is largely employed as a general antiseptic in various forms of dressings. Several modes have been suggested of covering its characteristic odour when used for this purpose, such as mixing it with balsam of Peru, oil of eucalyptus, carbolic acid, oil of peppermint, Sanitas oil, otto of rose, tannic acid, coumarin and Tonquin bean; the two last perfume it, and balsam of Peru covers it, but not effectively.

Iodoformum Aromaticum is scented with Coumarin, 1 in 50.

When used for chancres it is best applied in ethereal solution, or iodoform powder dusted on and covered with boracic acid ointment or gold-beater's skin or painted over with flexible collodion.

It is decomposed when taken internally and iodine is soon found in the urine; not being an irritant like iodine, it has been given with good effect when the latter is indicated, and has been of service in cases of irritation of the brain and spinal cord.—Binz.

Preparations.

Buginarium Iodoformi, T.H.

Nasal bougies having a gelato-glycerine basis and containing $\frac{1}{6}$ to $\frac{1}{3}$ a grain of Iodoform in each. As they gradually dissolve, the action of the Iodoform is sustained.

Collodium cum Iodoformo.

Iodoform	5 grains.
Flexible Collodion	1 drachm.

Dissolve. Used as a pigment to venereal sores.

Insufflatio Iodoformi, T.H.

Iodoform, in fine powder ...	1 grain.
Starch, in fine powder ...	$\frac{1}{2}$ grain.

In specific affections of the throat, antiseptic and mildly caustic.

Iodoform and Eucalyptus Bougies, Cereolus Iodoformi et Eucalypti.

Iodoform, precipitated ...	5 grains.
Oil of Eucalyptus	10 minims.
Oil of Theobroma	35 grains.

To make one bougie 4 in. long. Used to arrest gonorrhœa.

Directions for Use.—Having dipped the bougie in oil, preferably a mixture of equal parts of eucalyptus and castor oil, or carbolic oil (1 in 20), the patient, after emptying his bladder, is laid on his back, and the bougie introduced into the urethra and forced up, if possible, about an inch beyond the meatus, with a pencil, probe, or catheter. To absorb the discharge, a pad of boracic lint is applied over the orifice and retained in position, if the patient is able, by drawing the foreskin over it; outside, a large piece of gutta-percha tissue with a strap of isinglass plaster, is used to keep the whole *in situ*, as long as the patient can—5 or 6 hours. A little absorbent wool, lint, or a handkerchief should be placed to catch any discharge escaping. On removal of the pad, two syringefuls of sulphocarbolate of zinc solution (2 grs. in 1 oz.) are injected, and if the case is very acute another bougie is introduced. Afterwards the sulphocarbolate injection should be used six or seven times a day, for three or four days. When the acute symptoms have subsided, any remaining discharge may be treated by injections of sulphate or acetate of zinc, or tannic acid. The rapidity of the cure is much aided by administering a purge first, keeping the bowels open by salines, giving from the beginning santal oil or copaiba, and the patient during the treatment avoiding alcoholic liquors. The bougies may be used at any stage of the disease, but are most serviceable in the acute stage (say) up to the eighth day. The inflammatory symptoms rapidly subside, and even in the few cases in which they fail to produce this effect they do no harm.—See "The Abortive Treatment of Gonorrhœa" in B.M.J. ii./80,124; L. ii./82,175,213.

As the bougies melt at a low temperature they should be kept cool, and if necessary handled with wet lint or rag.

Iodoform Gauze, 20 per cent. Is prepared and used like Iodoform Wool.

Iodoform Wool, 10 per cent., **Gossypium Iodoformi.**

Absorbent cotton wool is soaked in an ethereal solution of Iodoform so as to contain, when dry, 10 per cent. of the drug. It is much used as an antiseptic dressing to wounds, and has to some extent displaced carbolic gauze. A weaker preparation containing 4 per cent. of Iodoform has been made, but has not been found sufficiently antiseptic.

Gossypium Iodoformi, T.H.

Contains 50 per cent. of Iodoform. It is used as a stimulant and antiseptic for affections of the ear.

Pastillus Iodoformi, T.H.

Contains 1 grain of Iodoform (more or less if prescribed) with 18 grains of glyco-gelatine in each pastil. Useful in syphilitic eruptions of the tongue, mouth, and throat, and in chronic pharyngitis.—M.T.G. ii./78,626.

Pencils of Iodoform, varying in thickness, for uterine medication, are prepared with iodoform, glycerine, and gum *q.s.* and dried.

Pilula Iodoformi, T.H.

Iodoform	2 grains.
Sugar of Milk	1 grain.
Glycerine of Tragacanth ...	*q.s.*

To make one pill. Dose.—1, two or three times a day.

Suppositorium Iodoformi (*Off.*).

Iodoform, precipitated ...	3 grains. (more or less if ordered).
Oil of Theobroma	*q.s.*

To make one suppository. May also be used as a pessary.

Unguentum Iodoformi (*Off.*).

Iodoform	1 part.
Benzoated Lard	9 parts.

Melt the lard, add the iodoform, and stir together until dissolved, and finally cooled.

Unguentum Iodoformi et Eucalypti.

Iodoform	60 grains.
Oil of Eucalyptus	1 ounce.

Heat gently till dissolved and add to

Paraffin	2½ ounces.
Vaseline	2½ ounces.

Melted together. Stir till cold.

Iodo-Vaseline is the same as the above, only all vaseline in place of 2½ ounces of paraffin.—B.M.J. ii./82,904.

Unguentum Iodoformi Rosatum (L. Browne).

Iodoform	5 grains.
Otto of Rose	3 drops.
Vaseline	1 ounce.

Dissolve and stir till cold. In nasal affections is useful in all forms of perverted secretion.

References.

For granular eyelids, Iodoform 1 to 4 of vaseline, recommended as an ointment.—M.T.G. ii./78,193.

Editorial on its therapeutic uses, recommending collodion solution for enlarged glands, and as a local anæsthetic and dressing for ulcers.—M.T.G. ii./78,629.

In later forms of syphilis and naso-pharyngeal affections, dose 1 to 2 grains internally and externally for venereal sores and indolent ulcers where there is no active inflammation.—L. i./79,83.

Résumé of its uses, recommended as an inhalation for phthisis and for application to cancer uteri et recti. —L. i./79,105.

In phlyctenular ophthalmia and ciliary blepharitis an ointment of 1 in 12 of lard was useful.—L. ii./79,953.

External application of Iodoform to front of the chest lowers the temperature in phthisis.—B.M.J. i./79,937.

Balsam of Peru, 2 parts to 1 of Iodoform completely masks the disagreeable odour of the latter. An ointment recommended of Iodoform 1, balsam 2, vaseline or lard 8, in various cutaneous diseases. Iodoform ointment used in orchitis, enlarged glands, and venereal ulcers. —B.M.J. ii./79,498.

All chancres are best treated with Iodoform. Sprinkle a little on the wound and cover with lint and vaseline.—Br. ii./79,lx.; Pr. xxii.321.

In nasal catarrh used as snuff *per se* with success.—B.M.J. i./80,167.

Ulcers treated by dusting it on and covering with boracic acid ointment.—B.M.J. i./80,362,400.

Alveolar abscesses treated by iodoform in conjunction with oil of eucalyptus.—B.M.J. i./80,621.

In impetigo larvalis, sores moistened with glycerine and equal parts of Iodoform and starch at first, then pure iodoform dusted on, in many cases quickly healed.—B.M.J. i./81,767.

On the frog's heart Iodoform acts like chloroform, but much more powerfully, arresting the ventricle; this can be restored by ammonia, which is antagonistic to Iodoform and chloroform.—Pr. xxvii.20.

Ulcer of the stomach treated by a 3-grain pill of Iodoform three times a day, blistering and nutrient enemata, vomiting ceased and rapid improvement resulted.—B.M.J. i./82,657.

Soft sores treated by painting with ethereal solution of Iodoform and then covered with a film of collodion or gold-beater's skin.—B.M.J. i./82,340.

Diluted with burnt kieselguhr, recommended as a dusting powder for specific sores, erysipelas, erythema, and eczema.—Pr. xxxiv.166.

Report of four surgical cases under Iodoform dressings, results not satisfactory.—B.M.J. i./82,903.

Use and dangers of Iodoform dressings.—M.R. 1882,405.

One in 10 of collodion useful as a pigment in erysipelas.—Pr. xxxii.365.

IODUM.

Iodine (*Off.*).

The official preparations containing free Iodine are Linimentum Iodi 1 in 8, Liquor Iodi (Lugol's solution) 1 in 20 of water (with iodide of potassium 1½), Tinctura Iodi 1 in 40, Unguentum Iodi 1 in 31, Vapor Iodi, volumetric solution of Iodine, 127 in 10,000.

Preparations (non-official).

Carbolised Iodine Solution.—See Acidum Carbolicum, p. 39.

Collodium Iodi.—See p. 154.

Glycerinum Iodi.

Iodine	20 grains.
Glycerine	1 ounce.

Heat carefully till dissolved,—is not a mere solution, some decomposition of glycerine takes place. It forms a useful pigment, the skin does not get hardened by its repeated application, and does not peel off.—P.J. 1870,601.

Iodized Phenol.—See Acidum Carbolicum, p. 40.

Injectio Iodi Hypodermica Fortissima, T.H.

Iodine	360 grains.
Iodide of Potassium ...	360 grains.
Distilled Water	4½ drachms.

Dissolve. Should measure exactly 1 ounce and contain ¾ grain free Iodine in each minim.

Dose.—3 to 5 minims for fibrous bronchocele.—Birm. Med. Rev. iv.1875,56.

A grain of Iodine may be held in solution in a minim of fluid, by employing iodide of sodium in the proportion of Iodine 3, iodide of sodium 2, and water *q.s.* to form 3 volumes.

Iodo-Glycerine Solution.

Iodine	10 grains.
Iodide of Potassium ...	30 grains.
Glycerine	1 ounce.

Dissolve. In spina bifida about 30 minims are injected into the tumour.—L. i./76,776; L. i./77,684; L. i./82,737; B.M.J. i./82,661; L. ii./83,499.

Pigmentum Iodi et Olei Picis, U.C.H.

(Coster's Paste).

Iodine	120 grains.
Light Oil of Wood Tar ...	1 ounce.

Mix carefully, applying heat if necessary; after ebullition preserve for use. Ebullition generally takes place by the chemical action between the two ingredients, a part of the oil is oxidised and forms a resinous deposit. Hydriodic acid is probably formed to some extent, as the mixture fails to give any reaction of free Iodine.—M.T.G. i./67,34; B.M.J. i./80,192; L. i./80,55.

Coster's Paste is a useful application for ringworm of the scalp; after well shaking the bottle, it should be well brushed in with a stiff brush; a scab will be produced which should be removed in a few days, the part cleansed by soaking with oil, and then soap and warm water; after drying, more paste should be applied. It causes no pain.

Use in the treatment of ringworm.—L. i./80,55; B.M.J. i./80,114, and Alder Smith on Ringworm.

Tinctura Iodi Decolorata.

Iodine	600 grains.
Rectified Spirit	13 ounces.

Dissolve and add

Strong Solution of Ammonia	3 ounces.

In the course of a few days, especially if exposed to sunlight, the mixture becomes decolorised. Then take

Solution, as above	1 ounce.
Rectified Spirit	2 ounces.

Mix. Thus diluted, it is about the same strength as the official tincture, and forms a useful application for chilblains and painting on exposed affected parts. Some iodoform is formed in solution.—P.J. 1876,42.

Tinctura Iodi Oleosa.

Iodine	1 ounce.
Rectified Spirit	9 ounces.

Heat to dissolve, and add

Castor Oil...	2 ounces.

Repeatedly applied as a pigment, it does not crack the skin, as the tincture does.

Amyli Iodidum (Buchanan).

Syn.—AMYLUM IODATUM; IODIZED STARCH, U.S.

Iodine	24 grains.
Distilled Water	*q.s.* to moisten.

Triturate and add gradually

Starch in powder	1 troy ounce.

Continue the trituration until it assumes a deep and uniform colour, and dry under 104° F.

Dose.—$\frac{1}{2}$ to 4 drachms, in water, water gruel, or arrowroot with water.

This is a mild form of administering Iodine in very weak combination for syphilis and other diseases, the dose is pushed until free Iodine can be detected in the urine. It is recommended as an antidote when poison is unknown, *e.g.* for sulphuretted hydrogen, the alkaloids, alkaline sulphides, caustic alkalies, and ammonia.—Pr. xxvi.128.

In lupus erythematodes, doses of 1 to 4 teaspoonfuls three times a day very successful.—B.M.J. i./80,652.

Pasta Iodi et Amyli, U.C.H.

Starch, in powder	1 ounce.
Glycerine	2 ounces.
Water	6 ounces.

Boil together, and when nearly cold add

Solution of Iodine (*Off.*) ...	1 ounce.

Mix well. In devising this formula the author found the addition of glycerine was necessary to prevent the paste turning mouldy. Useful to cleanse and heal foul sores, especially such as are syphilitic.—Tilbury Fox.

It rapidly heals syphilitic ulcers, especially those of the face; if applied on lint during the night, the sores may be hidden with calamine lotion during the day.

Vapor Iodi Ætherealis.

Iodine	3 grains.
Ether	2 drachms.
Carbolic Acid	2 drachms.
Creasote	1 drachm.
Rectified Spirit	3 drachms.

Ten minims to be dropped on the respirator for dry inhalation. Thymol may be substituted for creasote.—B.M.J. i./81,841.

IRIDIN.

Syn.—IRISIN.

Dose.—1 to 5 grains, in a pill with glycerine of tragacanth or extract of henbane.

The powdered extractive of a dark brown colour obtained from the root of the blue flag, *Iris versicolor*, has a bitter, nauseous, acrid taste, possesses cathartic, alterative and diuretic properties, given in hepatic and intestinal disorders. Malarial jaundice has been cured by it.—B.

Pilula Iridin.

Iridin	2 grains.
Extract of Henbane ...	*q.s.*

To make one pill. Two for a dose at bedtime quickly remove slight feeling of biliousness, especially when the tongue is yellow; should be followed by a saline aperient in the morning. Iridin is gentler in action than podophyllin and more reliable when a slight cholagogue is wanted for a lengthened period.—Pr. xxiii.335; B.M.J. i./79,177.

On dog acts as a powerful hepatic and intestinal stimulant.—B.M.J. Rep. 1878,66.

Comfortable purge for biliousness, 4 grains combined with one grain of euonymin.—B.M.J. i./79,932.

Mild aperient cholagogue, produces bilious stools, does not irritate rectum, and has no subsequent astringency.—L. ii./62,239.

In gallstones, 1 grain every night for twelve nights removes liability to.—B.M.J. ii./81,694.

In vomiting of pregnancy 2-grain doses at bedtime followed by a saline purge.—M.T.G. i./84,539.

JABORANDI.

Jaborandi (*Off.*).

Syn.—PILOCARPI FOLIOLA.

Dose.—5 to 60 grains of the powder.

The dried leaflets of a rutaceous shrub, a species of *Pilocarpus*, probably *P. pennatifolius* imported from Brazil, principally from Pernambuco. The leaflets of *P. Selloanus* are also imported from Rio de Janeiro under the same name, but are much less active. Jaborandi was first introduced into Britain by the writer in 1874. The leaves are of a dull green colour, large, pinnate, having 3 to 5 pairs of leaflets and a terminal one. The leaflets are coriaceous, 4 to 6 inches long, oblong, lanceolate, emarginate, smooth, or only slightly tomentose and full of pellucid dots. The leaves of several species of *Piper* also are known in Brazil as Jaborandi, which should not be confounded with the *Pilocarpus* variety. The *Piper* leaves are brighter green in colour, more papyraceous, and they are not pinnate. The latter have been imported and sold in the London market as Jaborandi. They are said to possess similar therapeutic properties, but have not been carefully investigated. The true Jaborandi is a powerful sudorific and sialogogue; after a time a large dose acts as an emetic, contracts the pupil of the eye, and causes the approximation of vision. These properties are due to an alkaloid **Pilocarpine** contained in it. A second alkaloid Jaborine, which is said to have antagonistic properties to pilocarpine, is probably a derivative from it; more recently two other alkaloids—Pilocarpidine and Jaboridine—have been isolated from the leaves. Pure Pilocarpine is a colourless, syrupy, liquid, odourless alkaloid, which forms crystallizable salts with acids (see Pilocarpina). Jaborine is more liquid, and does not form crystallizable salts. Possessing such marked physiological properties, this drug has been used in a great variety of diseases, most successfully in asthma, diabetes, and as an antidote to belladonna poisoning. Children proportionately are not affected by the drug so much as adults. Description and physiological action (on the author).—P.J. 1874,364; and 1875,561; L. i./75,138; B.M.J. i./75,142; M.T.G. i./75,92.

Description and botanical source.—P.J. 1875,581,641.

Extractum Jaborandi (*Off.*).

Dose.—2 to 10 grains, in pills. It is a proof spirit extract.

Extractum Jaborandi Fluidum, Liquor Jaborandi.

Dose.—10 to 60 minims. It is an aqueous fluid extract with spirit *q.s.* to keep it. A fluid drachm = 1 drachm of leaves, is more palatable than the tincture.

Infusum Jaborandi (*Off.*).

One ounce to a pint of boiling water.

Dose.—1 to 2 ounces as a diaphoretic.

Tinctura Jaborandi (*Off.*).

Dose.—30 to 60 minims. Four fluid drachms = 1 drachm of leaves, obtained by percolation with proof spirit; 5 to 20 minims 3 times a day, or at bedtime only, check night sweating.—Pr. xxiii.430.

References.

Physiological action on submaxillary gland of dog.—Jour. Anat. and Phys. ix.173; x.187.

Physiological and therapeutical action.—L. i./75,157; B.M.J. i./75,543.

Diabetes insipidus, 2 cases relieved by Jaborandi.—L. ii./75,242.

Case of diabetes treated unsuccessfully by.—L. ii./75,775.

Puerperal albuminuria and convulsions, its effects on.—L. i./79,464.

Is only a feeble hepatic stimulant on dog.—B.M.J. i./79,137,177.

Tension of accommodation, increase of lachrymal secretion and glistening scotomata caused by taking infusion of.—Pr. xxii.458.

Therapeutic study of its uses and properties.—B.M.J. ii./80,889, and i./81,969.

The sweating and salivation from a full dose of Jaborandi or Pilocarpine persists from 2 to 4 or 5 hours, the symptoms come on in about 10 minutes after taking the dose if external conditions are favourable. Hypodermically the alkaloid acts in 3 to 5 minutes. A reduction of temperature on an average of 0·9° occurs under the influence of the drug. The face flushes first and then pales; it causes contraction of the pupil, tension of accommodation with approximation of the nearest and farthest points of distinct vision, and amblyopic impairment of vision from diminished sensibility of the retina. These effects do not last long. It is slightly narcotic, sometimes causes sickness in large doses, promotes secretion of milk and is antagonistic to atropine.—R.

Pilocarpina, Pilocarpine.

The pure alkaloid is not used medicinally. For characters and properties, see p. 220.

Pilocarpinæ Hydrochloras, Pilocarpinum Hydrochloricum, P.G.

Dose.—$\frac{1}{20}$ to $\frac{1}{2}$ grain by mouth or $\frac{1}{10}$ to $\frac{1}{3}$ grain hypodermically. In minute granular snow-white crystals, slightly deliquescent and very soluble in water. This salt is preferred on the Continent.

Pilocarpinæ Nitras (*Off.*).

Dose.—$\frac{1}{20}$ to $\frac{1}{2}$ grain as the hydrochlorate.

In minute white granular snow-like crystals, but may be obtained in large white prismatic crystals. Soluble 1 in 10 of water, freely soluble in hot, but very slightly in cold alcohol. This salt, preferred in England, was the first pure preparation of Pilocarpine prepared, and obtained by the author by crystallizing it from an alcoholic solution, thus freeing it from impurities.

Guttæ Pilocarpinæ, R.O.H.

Nitrate of Pilocarpine ...	2 grains.
Distilled water	1 ounce.

Dissolve. Used like Eserine salts to contract the pupil.

Injectio Pilocarpinæ Nitratis Hypodermica.

Nitrate of Pilocarpine ... 1 grain.
Distilled water ... ... 20 minims.

Dissolve. *Dose.*—2 to 6 minims.

Pilula Pilocarpinæ Nitratis.

Nitrate of Pilocarpine, $\frac{1}{20}$ grain triturated with sugar of milk and glycerine of tragacanth *q.s.* to make one pill.

References.

Useful for checking night sweating, a pill 2 or 3 times a day or repeated once or twice during the night.—Pr. xxiii.430.

The salts of pilocarpine possess all the before-mentioned properties of jaborandi in a marked degree; applied topically, they contract the pupil of the eye. Pilocarpine is antagonistic to atropine, and a complete antidote to poisoning by the latter. It promotes the growth of the hair in alopecia. Large doses are powerfully diaphoretic, small ones ($\frac{1}{20}$ grain) check night sweating of phthisis—does not over-dry the skin.—Pr. xxxiii.430.

Acute nephritis, used with effect in 0·03 gramme ($\frac{1}{2}$ grain) for a dose is large; a 2 per cent. solution applied to the eye produces strong contraction.—Binz.

Unilateral sweating, experiments on, pilocarpine affected the normal more than the diseased side.—Pr. xvii.401.

In kidney disease and dropsy, hypodermic use of $\frac{1}{13}$ grain for infants, or $\frac{1}{7}$ grain for 6 years, acts as a sialogogue and diaphoretic.—Pr. xxi.132.

In rheumatic iritis.—Pr. xxi.209.

Use as an oxytocic.—Pr. xxii.135.

The hydrochlorate applied locally caused high degree of myosis and slight spasm of accommodation; injected hypodermically, high degree of spasm of accommodation and slight myosis.—Pr. xxii.458.

To contract the pupil of the eye is less active (slightly) than eserine.—B.M.J. ii./79,364.

In poisoning by atropine 2½ grains, muriate of pilocarpine 2½ grains in centigramme (about $\frac{1}{7}$ grain) doses was a successful antidote.—B.M.J. i./80,366.

Antagonism to atropine.—L. ii./79,474.

In intermittent fever $\frac{1}{7}$ to $\frac{1}{3}$ grain of nitrate promptly cuts short the chill, produces sweating, and avoids hot stage altogether.—Pr. xxiii./365.

Summary of uses:—useful in nephritis, assists pains of labour, but will not originate them, diminishes urine in diabetes; action similar to eserine, but less irritating, in diseases of the eye; said to promote growth of the hair.—Pr. xxiii.374.

Three hypodermic injections successful in a comatose case of uræmia, albuminuria, with convulsions and complete anuria.—Pr. xxiv.129.

Relieves prurigo; in two cases of alopecia result undecided.—Pr. xxv.50; M.T.G. ii./80,554.

In skin diseases where the secretion of sweat was more or less altered, $\frac{1}{6}$ grain hypodermically twice a day found useful in prurigo, urticaria, and some cases of alopecia.—Pr. xxvi.128.

In asthma, doses of $\frac{1}{5}$ to $\frac{1}{3}$ grain of the hydrochlorate, hypodermically given systematically at intervals, is very serviceable.—B.M.J. i./80,917,960.

Action on pupil of eye is double, both dilates and contracts it, causes contractions by stimulating the third nerve.—L. ii./80,779.

Hydrophobia, two cases treated by $\frac{1}{3}$ grain injections, death resulted in both cases.—L. ii./80,491.

Puerperal convulsions treated by injection of Pilocarpine, pains became stronger, fœtus expelled, and rapid recovery.—B.M.J. i./81,511.

Therapeutic uses and physiological effects.—Med. Congress Rep. 1881,i.491.

In belladonna poisoning by 18 drachms of the liniment, 4 hypodermic injections of one-fifth of a grain was a direct antidote, and did not cause the least perspiration.—L. i./81,951; B.M.J. i./81,594.

Atropine poisoning successfully treated by pilocarpine given hypodermically.—B.M.J. i./81,300.

Relieved puerperal convulsions by two hypodermic injections of 15 minims of 1 per cent. solution. These caused much salivation, recovery was almost hopeless; but the pains improved, and fœtus was expelled, and, although unconscious for two days after, recovery was rapid.—B.M.J. i./81,511.

Hydrophobia, one case cured by hypodermic injections of $\frac{1}{6}$ grain doses of Pilocarpine.—M.R. 1883,146.

Fetid perspiration of the feet is cured permanently by hypodermic injection of Pilocarpine.—L. i./81,638; Pr. xxvii.461.

In diphtheria, notice of its use, combined with pepsin and hydrochloric acid; the abundant salivation detaches the membrane, &c.—L. ii./81,962; Pr. xxvi.378,461, and Pr. xxix.62.

Syphilis, 32 cases, 78 per cent. cured by Pilocarpine injections.—Pr. xxvii.380.

Action of injections of Pilocarpine on the hair, in one case changed colour from blonde to black, in another caused rapid growth.—L. i./82,78.

Case of hydrophobia treated successfully by 3 hypodermic injections of hydrochlorate of pilocarpine, 1 centigramme ($\frac{1}{7}$ grain).—L. i./82,1056.

In a case of locomotor ataxy, the hypodermic injection relieved the pain after morphia had failed.—L. ii./82, 909.

In deep-seated diseases of the eye, optic neuritis, with symptoms of meningitis at the base of the brain, and in conjunction with antisyphilitic treatment in specific eye diseases is often useful.—B.M.J. ii./82,684.

Recommended for myxœdema.—L. ii./83, 951; B.M.J. ii./83, 1071; ii./84,681.

Diabetes, a case recovered under its use.—L. ii./84,275.

Intense headache, from syphilitic lesion of brain, relieved by subcutaneous injection of $\frac{1}{5}$ to $\frac{1}{2}$ grain of Muriate of Pilocarpine.—Pr. xxxii.261.

JUGLANDIN.

Dose.—2 to 5 grains, in a pill with mucilage of acacia.

The powdered extractive obtained from inner bark of root of butter-nut, *Juglans cinerea*. Colour dark brown. Is laxative and cathartic, without debilitating, useful in habitual constipation and biliousness.

A moderately powerful hepatic and mild intestinal stimulant.—B.M.J. i./79,177; Pr. xxiii.337.

Kairine.—See p. 118.

KAOLIN PRÆPARATUS.

Prepared Kaolin.

Native white silicate of alumina, which has been purified by elutriation from free silica and undecomposed felspar; it is a pearly white powder, unctuous to the touch and free from grittiness. It forms a useful absorbent powder to apply to infants and to irritated conditions of the skin generally. A special preparation, agreeably perfumed, having similar chemical and physical properties, is sold under the name of Cimolite. It is a pure white soft powder. Kaolin is unacted upon by most chemical reagents; it is, therefore, useful for diluting such salts as nitrate of silver and permanganate of potash, either to form them into powders or into pills.

Preparation.

Unguentum Kaolin.

Vaseline	1 ounce.
Paraffin	1 ounce.
Melt and add	
Kaolin	1 ounce.

Stir till cold.

Spread on rag to apply to abraded skin; it allays irritation. It forms a useful excipient for nitrate of silver and permanganate of potash pills.—See Potassii Permanganatis, p. 292.

Absorbent Powders.—In addition to Kaolin the following are used medically.

Fuller's Earth, is also a native silicate of alumina, with traces of iron, grey in colour when in powder.

Talc, a native foliaceous silicate of magnesia; that obtained from the Tyrol—Venetian Talc—is very soft and unctuous.

French Chalk, a harder silicate of magnesia than talc, forms a soft powder.

Selenite, a transparent variety of gypsum, native sulphate of lime reduced to powder, is soft and pearly.

Kieselguhr, a diatomaceous earth, known as white peat; when burnt produces an extremely light ash, which is very absorbent and antiseptic.—Pr. xxxiv.166.

Oxychloride of Bismuth.—See Bismuthi Oxychloridum, p. 97.

Oxide of Zinc, various **Starches,** powdered **Orris Root,** and mixtures of these, perfumed, are employed for toilet purposes.

Calamina Præparata, Prepared Calamine (*Off.*).

Syn.—Lapis calaminaris præparatus.

Impure oxide of zinc prepared by calcining native Calamine (carbonate of zinc) and reducing it to an impalpable powder; should be almost entirely soluble in diluted sulphuric acid, to which solution, when potash or ammonia is added in excess, the precipitate first formed is redissolved. Genuine Calamine, on account of its physical characters, when of a neutral flesh-tint, is preferred to the other zinc powders, as a dusting powder or for making lotions.

Ceratum Calaminæ, P.L.

Syn.—Turner's Cerate.

Calamine and Yellow Wax, of each	15.
Olive Oil	40.

A useful application to burns.

Lotio Calaminæ, U.C.H.

Levigated Calamine ...	40 grains.
Oxide of Zinc	20 grains.
Glycerine	20 minims.
Water (or Rose Water) to ...	1 ounce.

Elutriate the calamine and oxide of zinc by triturating them in a mortar with successive portions of the water and decanting from the siliceous matter, and add the glycerine.

Used in eczema, especially where the surface is red and tender, also to conceal acne spots on the face. One grain of perchloride of mercury may be added to 6 ounces of it.

Unguentum Calaminæ (*Off.*).

Prepared Calamine	1.
Benzoated Lard	5.

LEPTANDRIN.

Dose.—¼ to 2 grains in a pill, with glycerine of tragacanth.

A dark greenish brown resinoid powder obtained from culvers root, *Leptandra Virginica.* It excites the liver and promotes flow of bile, without any irritation of the bowels—½ to 2 grains twice or three times a day. Is useful in dyspepsia, diarrhœa, and cholera infantum.

References.

One grain is a very useful cholagogue and alterative; 2 grains have an aperient action; acts well combined with podophyllin in bilious headache.—B.M.J. ii./76, 113.

On dog a moderate hepatic, but feeble intestinal stimulant.—B.M.J. Rep. 1878,66; Pr. xxiii.410.

Aperient, alterative, and tonic to the stomach, has been given in diarrhœa and dysentery.—L. ii./62,239.

LIQUOR ALUMINII ACETICI.

Solution of Acetate of Aluminium, P.G.

Sulphate of Alumina (true) ...	300.
Acetic Acid, B.P. (by weight) ...	386.
Precipitated Carbonate of Lime ...	130.
Water	1,000.

Having dissolved the sulphate in 800 parts of water, add the acetic acid, and while constantly shaking pour in by degrees the carbonate of lime mixed with 200 parts of water. Set aside for 24 hours in a warm place, and shake frequently, then decant, press the sediment, and filter the solution. Contains 7½ to 8 per cent. of subacetate of aluminium.

Diluted with twice as much water, thus making a 2½ per cent. solution, it has been used as an antiseptic lotion, and gauze impregnated with a 5 per cent. solution has been used as an antiseptic dressing by Maas of Freiburg. The solution is a powerful antiseptic and slight astringent.—M.T.G. ii./80,506.

Liquor Aluminii Chloridi.

A straw-coloured inodorous liquid, with an astringent taste and acid reaction, Sp. Gr. 1·250; may be obtained by the double decomposition of sulphate of aluminium and chloride of calcium. It possesses strong antiseptic properties.

Chloralum.

The common disinfectant, prepared like the last and sold under this name, is a much weaker solution, and is darker in colour, owing to its containing some perchloride of iron in solution.—L. ii./70,354,527.

LITHII BROMIDUM.

Bromide of Lithium, U.S.

Dose.—5 to 15 grains.

A white granular salt, very deliquescent, odourless, having a sharp, somewhat bitter taste and neutral reaction; very soluble in water and alcohol. A given weight contains nearly half as much more of bromine as the same weight of bromide of potassium, and its effect as a bromide is said to be even greater than this ratio, especially as a hypnotic, and to be used in epilepsy.

Lithii Benzoas, Benzoate of Lithium.

Dose.—2 to 10 grains.

Usually a light white crystalline powder, soluble 1 in 4 of water; contains about 95 per cent. of benzoic acid. Used as an antilithic.

Lithii Guaiacas, Guaiacate of Lithium.

Dose.—5 grains twice a day.

Prepared by digesting guaiacum resin in an aqueous solution of lithia, decanting the clear solution, evaporating and scaling it. Contains lithia 1, guaiacum resin 3. Given for chronic gout and rheumatism.

LUPULINUM.

Lupulin (*Off.*).

Dose.—2 to 5 grains in a pill, with glycerine and spirit.

The bright brownish yellow, or yellowish brown glandular powder—lupulinic glands—separated from the strobiles of the hop—*Humulus Lupulus.* It is aromatic and bitter, and contains most of the active properties of the hop—the resin and volatile oil. Should not yield above 15 per cent. of ash. It is used in insomnia and for alcoholism.

LYCOPODIUM.

Clubmoss Spores.

The spores of *Lycopodium clavatum*, common clubmoss, form a fine, mobile, inodorous, tasteless powder, with a pale yellow hue. Lycopodium is a strong repellent of aqueous moisture, floats on water, yet sinks in it after boiling. By strong trituration it coheres and leaves an oily stain on paper. It is immediately moistened by oily and alcoholic liquids, chloroform and ether, and, having great power in absorbing oils and oleo-resins, it is a useful excipient to form these into pills. It forms a good pill powder, protecting hygroscopic pills, is useful as a diluent for insufflations for the throat and ear, and as an inert dusting powder for excoriated and weeping surfaces of the skin. When ignited, it explodes with a flicker.

MALTUM.

Malt.

Syn.—Byne.

Malted barley contains the ferment Diastase, which possesses the property, under certain conditions, of converting starch into dextrin and sugar (maltose). Malt flour and other preparations of malt are used medicinally to assist the digestion of starchy foods.

Malti Pulvis.

Dose.—1 to 2 drachms.

Malt flour or entire malt powdered, is added to baked wheaten flour in various proportions to form the popular infants' foods. When these are mixed with hot water or a mixture of hot milk and water, the starch contained in the wheaten flour becomes soluble and digested into dextrin and malt sugar. The diastasic property of malt is most acute in aqueous solution at 140° F.—a boiling heat destroys it. A small teaspoonful of malt flour may be sprinkled over or mixed with cooked farinaceous foods, such as porridge, gruel, bread and milk, or arrowroot, when cool enough to sip, or it may be infused in a cup of coffee, glass of beer, or cold water; the latter form pleasant and useful beverages when taken with meals, to assist the digestion of bread or other farinaceous food.

Extctum Malti, P.G.

S—EXTRACTUM BYNES.

se.—1 to 4 drachms.

syrupy, yellowish brown liquid, having a pleasant svet taste, consisting principally of dextrin and malt sgar (maltose), and possessing some diastasic propers. According to the German pharmacopœia, it is nade by first moistening ground Malt with cold water, macerating and adding more water and digesting at 149° F., then *boiling*, straining and evaporating to a thick extract. The *boiling* destroys the diastasic property, but makes the extract keep better. Much of this preparation in commerce is weak in diastase, being made by mixing with water at the proper temperature 1 part of bruised Malt with 6 to 10 parts of maize or other cereal flour,—the starch of the latter is converted into dextrin and maltose; on pressing, filtering, and evaporating at a low temperature, a syrupy extract is obtained which still contains some unexhausted diastase. Extract of Malt and its preparations are prescribed in cases of debility of all kinds, as a restorative, like cod liver oil, but particularly where digestion is weak.—B.M.J. i./79,683; L. i./79,125; M.T.G. ii./78,529; Pr. xxxiii.340.

Extractum Malti Ferratum, P.G.

Pyrophosphate of Iron ...	2 parts.
Water	3 parts.
Dissolve and add Extract of Malt...	95 parts.

Mix.

Dose.—1 to 4 drachms.

Extractum Malti cum Oleo Morrhuæ.

Dose.—1 to 4 drachms.

The percentage of oil in this preparation is variable and it quickly turns rancid; a little salicylic acid is often added to prevent it becoming so.

Infusum Malti.

Malt, bruised	3 ounces.
Cold Water	10 ounces.

Infuse 12 hours, and strain to produce 7 ounces.

Dose.—2 to 4 drachms with meals, in water or milk, or added to cooked gruel or porridge (Pr. xxiii.401). This infusion is rich in diastase but keeps badly; a minim of chloroform added to each ounce will keep it.

MANGANESII OXIDUM NIGRUM.

Black Oxide of Manganese (*Off.*).

Dose.—4 to 30 grains.

Manganesii Oxidum Præcipitatum.

Dose.—3 to 10 grains, or more, in pills with syrup.

Consists principally of hydrated manganic oxide, a bulky blackish brown powder, free from grittiness and entirely soluble in cold hydrochloric acid. Is more suitable for medicinal purposes than the above. Useful in gastrodynia, and in amenorrhœa taken 3 or 4 times a day before expected period.—L. i./83, 7.

Manganesii Hypophosphis, Hypophosphite of Manganese.

Dose.—1 to 10 grains.

A white or slightly rose-tinted powder, insoluble in water.

Manganesii Phosphas, **Phosphate of Manganese,** Manganous Phosphate.

Dose.—1 to 5 grains.

A white powder, generally with a pinkish tint, insoluble in water. From ½ to 1 grain is sometimes dissolved in 1 drachm of syrup of phosphate of iron for a dose.

Manganesii Sulphas, **Sulphate of Manganese,** Manganous Sulphate.

Dose, of powder.—2 to 10 or 60 grains or more.

Is usually met with as a white powder with a faint pink tint, due to a little manganic sulphate. Crystals may be obtained with difficulty, in form like ferrous sulphate, but with an amethyst tint. For jaundice, 60 grains is a cholagogue purgative.

It does not excite the liver, though it is a powerful excitant of the intestinal glands of the dog.—B.M.J. i./79,105,177.

Potassii Permanganas.—See p. 291.

MENISPERMIN.

Dose.—1 to 5 grains, in a pill with glycerine of tragacanth.

The powdered extractive of a pale brown colour obtained from the root of yellow parilla—*Menispermum* *fenestratum*—and *M. Canadense*. Is an alterative tonic, laxative, diuretic, stimulant, and resolvent, useful in indigestion.

Pilula Menispermin.

Menispermin	2 grains.
Glycerine of Tragacanth ...	*q.s.*

To make one pill. Taken 3 times a day, is a tonic, laxative, diuretic, and alterative.—L. ii./62,20.

On the dog is a slight intestinal, but not a hepatic stimulant.—B.M.J. ii./78,909; Pr. xxiii.423.

MENTHOL.

Menthol (*Off.*).

Dose.—½ to 2 grains or more in a pill with powdered soap, or in solution in olive oil.

A white crystalline stearoptene resembling sulphate of magnesia in appearance if dry, or in long needles, sometimes in crystalline masses, moist from adhering liquid oil. Imported principally from Japan and China, and obtained from *Mentha arvensis, vars. piperascens et glabrata*, it melts when pure at 97° F. It is insoluble in glycerine, but soluble 3 in 2 of rectified spirit, also freely in ether, chloroform, and fixed and volatile oils; sparingly soluble in water, but imparts to it the strong odour and taste of peppermint. It produces a warmth and glow on the tongue, and sensation of coolness on drawing the breath over it. Given internally, it acts as a diffusible stimulant. Its solutions, applied topically to the skin in a similar manner, affect the nerves of the part somewhat like aconite, and form useful pigments for neuralgia, having the advantage of being non-poisonous. It has powerful antiseptic properties, but is not caustic; its action more resembles that of an anæsthetic. The moist variety is put up and sold, moulded into sticks and pencils for relieving neuralgia; this kind of Menthol, having a low melting point, liquefies when gently rubbed on the painful part.

Equal parts of Menthol and Thymol rubbed together liquefy and form an oily liquid, similar liquefactions take place on triturating respectively equal parts of Menthol, and Absolute Phenol, equal parts of Menthol and Chloral Hydrate, 3 parts of Menthol and 2 parts of Camphor, 2 parts of Menthol and 1 part of Croton Chloral Hydrate, and 2 parts of Menthol, with one of each Carbolic Acid and Croton Chloral Hydrate. These form colourless transparent oily fluids; when applied on cotton wool are useful for relieving toothache arising from carious teeth, or preparing them for stopping; the pain is promptly relieved, and all symptoms obtunded during the process of filling.

Linimentum Menthol.

Menthol 3, chloroform 4, olive oil *q.s.* to 16; is useful in lumbago, neuralgia, and sciatica.

As an antiseptic and antineuralgic, 1 in 60 of rectified spirit, with a little oil of cloves added; useful in sciatica, intercostal neuralgia and the crystals on cotton wool for toothache.—L. i./79,822; L. ii./79,335,376,448.

Sciatica, 3 cases relieved by applying alcoholic solution 1 in 20, might be used 1 in 10.—L. ii./79,750.

Chemical properties and uses.—P.J. 1879,391.

Ringworm of the scalp, recommended and used for with successs, 1 part Menthol in 4 volumes of chloroform and 12 volumes olive oil.—L. i./81,241.

A local anæsthetic effect on mucous membranes is produced by 20 or 30 per cent. solutions in alcohol or ether.—L. ii./85,128.

Po-ho-yo.—Chinese oil of peppermint, not obtained from *Mentha piperita*, but having the odour of the British plant, is sold as Japanese Drops or *Gouttes Japonnaises* for the relief of neuralgia, in little bottles and cases, labelled with Chinese characters. It is much used by the Chinese and Japanese for the relief of neuralgia. A little should be smeared on the painful part, or applied on cotton wool to a carious tooth. It is rich in Menthol, which crystallizes and solidifies the oil when exposed to cold.

MENYANTHES.

Bogbean.

Syn.—BUCKBEAN; MARSH TREFOIL.

The leaves of this gentianaceous plant, *Menyanthes trifoliata*, are used by herbalists and others as a household remedy, as a pure bitter tonic, also as an emmenagogue antiscorbutic, vermifuge and febrifuge; large doses are purgative and emetic. They contain a glucoside menyanthin, which, under the influence of acids, breaks up into glucose, and menyanthol a volatile product.

Infusum Menyanthis. 1 in 20.

Dose.—2 to 6 ounces taken hot, early every morning, for some weeks, if necessary; is recommended for functional amenorrhœa.—L. i./85,132,235.

Extractum Menyanthis et Glycyrrhizæ Liquidum.

Dose.—½ an ounce in half a tumbler of hot water; this dose is equal to ¼ of an ounce of the drug, and has liquorice to cover its bitterness.

METHYL CHLORIDUM.

Chloride of Methyl.

This gas is prepared in Paris and compressed into iron cylinders (in the form that nitrous oxide is generally supplied to dentists). It is used there as a local anæsthetic. As the gas is emitted from the cylinder, it is mixed with a stream of atmospheric air, and, being applied as a jet, it freezes the part by the intense cold it produces.

It has been used in the treatment of sciatica with success, also in articular rheumatism (acute and subacute), nodular and chronic rheumatism, stitches in the side, pleurisy, tuberculosis, and pneumonia. The spray is applied obliquely, not perpendicularly, on the cutaneous surface, and only for five or six seconds, else, if prolonged, blisters or eschars may result.—B.M.J. i./85,813.

METHYLENE.

Syn.—Formerly called BICHLORIDE OF METHYLENE.

Under this name is sold an anæsthetic, which is a dense colourless ethereal liquid, with a chloroform-like odour. It is obtained by the action of metallic zinc on chloroform and alcohol.

Lectures on introducing it as an anæsthetic.—M.T.G. ii./67,423,479,559,693.

Is as suitable for long operations as chloroform.—L. i./71,591.

Used with most favourable results at Guy's Hospital.—L. i./71,634.

Given 1800 times without ill effects; it is more rapid in producing unconsciousness than chloroform and quicker in passing off.—L. i./72,671.

By Junker's apparatus, air charged with methylene vapour is given, not the vapour itself, and, so employed, was efficient and safe.—B.M.J. ii./77,176.

Report on anæsthetics; it is a mixture; effect on rabbits described; its danger is from syncope, not coma. —B.M.J. i./79,1,3.

Deaths from inhalation of.—B.M.J. ii./74,823; B.M.J. ii./75,113; B.M.J. ii./84,826,975.

A commercial sample had Sp. Gr. 1·326, is said to be chloroform reduced to this density by alcohol.—N.R. xii.43: B.M.J. i./84,737.

MORPHINA.

Morphine.

Dose.—$\frac{1}{10}$ to $\frac{1}{2}$ grain.

This alkaloid, to which the medicinal effects of opium are principally due, in the pure state is, if precipitated from an aqueous solution of its salts, a white amorphous powder, or, if crystallized from an alcoholic solution, is in white, shining, transparent acicular prisms, insoluble in water and ether, freely soluble in boiling and but slightly in cold alcohol; soluble in caustic potash solution, milk of lime, and readily dissolved by acids, forming salts, from solutions of which it is precipitated by ammonia, but not by potash. The crystallized alkaloid is a very stable and definite preparation. 3 parts are medically and commercially reckoned equal to 4 parts of either of the official salts (acetate and hydrochlorate). Morphine preparations are incompatible with those of perchloride of iron.

Oleatum Morphinæ.

A solution of the alkaloid morphine in oleic acid 1 grain in 1 drachm is sold under this name for local application to relieve pain. Sometimes it is ordered twice or three times the above strength. Oleic acid will dissolve as much as one-tenth of its weight of pure morphine. The addition of morphine is made to oleate of mercury applications when the latter cause much pain.—L. i./72,809.

Morphinæ Acetas (*Off.*).

Dose.—⅛ to ½ grain, which may be increased.

In commerce a white amorphous powder, soluble 1 in 2½ of water (if recently made and not very dry), soluble also in spirit. Liable to change and turn brownish in colour.

The dose of morphine and of opium is often much increased when persons become addicted to their use. The author, under medical direction, for several years anterior to 1868, dispensed for a lady, who had previously been a dipsomaniac, 6 dozen powders weekly, each containing 2 grains of acetate of morphine and 6 grains of sugar of milk. She took on an average over 20 grains of the morphine salt daily for years. She had taken powders containing as much as 8 grains of pure acetate of morphine in each; the sugar of milk was added gradually to replace the morphine, hoping to break her of the habit, but this had only the effect of making her take an increased number of the powders, so as to obtain about the same amount of morphine to satisfy her craving.

Injectio Morphinæ Hypodermica (*Off.*).

Dose.—1 to 6 minims; 10 minims = one grain of the acetate.

Is made by precipitating the alkaloid from 92 grains of hydrochlorate of morphine by means of excess of solution of ammonia, washing the precipitate and redissolving by adding acetic acid to make the mixture very slightly acid, further adding distilled water *q.s.* to measure exactly 2 fluid ounces, and then filtering. The Pharmacopœia states that 1 drachm contains 6 grains of acetate of morphine, corresponding to 4·25 grains of morphine when precipitated with ammonia and dried.

A solution, 1 grain in 6 minims, is also frequently used. Acetate of morphine becomes less soluble with age. It is necessary either to use it freshly prepared or to use an equivalent quantity of the pure alkaloid dissolved by means of acetic acid. The writer recommends the following process for producing the injection.

Injectio Morphinæ Acetatis Hypodermica.

1 in 6, double the strength of the last preparation.

Dose.—1 to 3 minims.

Morphine (pure alkaloid) ... 60 grains.

Place in an ounce vial and moisten with

Distilled Water ... ... 6 drachms.

Add

Acetic Acid ... ... 40 minims, or *q.s.*

To make the solution barely bright after being kept closed at a gentle heat for 24 hours. Then filter and sprinkle and wash the filter with sufficient

Distilled Water to make the product measure exactly ... 1 ounce.

Shake to make uniform, and keep the solution from the light in stoppered bottles, the stoppers of which should be coated with paraffin wax, by first heating them and rubbing the ground part over with the wax as it melts. If the stopper be then inserted firmly, it prevents any oozing or encrusting of the morphine around the neck of the bottle; a few drops of glycerine added, will, it is said, prevent any encrustation. It has a straw colour, changing to vinegar-brown on keeping.—P.J. 1870,481; B.M.J. ii./80,728; B.M.J. i./81,146.

Injectio Morphinæ et Atropinæ Hypodermica.

Injection of Acetate of Morphine (1 in 6) ... ... 3 drachms.

Sulphate of Atropine... ... 1 grain.

Dose.—1 to 3 minims. 3 minims contain half a grain of acetate of morphine and $\frac{1}{60}$ grain of sulphate of atropine. Some practitioners prefer to use it half this strength. Although atropine is in many respects antagonistic to morphine, yet, given in combination with it in small doses, the former increases the sedative action and counteracts the disagreeable effects of the latter on the head, stomach, and bowels.

Liquor Morphinæ Acetatis (*Off.*).

Dose.—10 to 60 minims. Contains 1 per cent. of acetate of morphine in rectified spirit 24, distilled water 73, with 2 of diluted acetic acid.

Pastillus Morphinæ Acetatis.—See p. 197.

Pastillus Bismuthi Carbonatis cum Morphinæ Acetate.—See p. 197.

Morphinæ Hydrobromas.

Dose.—$\frac{1}{5}$ to $\frac{1}{2}$ grain.

In commerce is met with as a white amorphous powder resembling the hydrochlorate of morphine in appearance. Sometimes administered with free hydrobromic acid as a sedative, and thought not to affect the head so much as other salts of morphine when given thus.

Morphinæ Hydrochloras (*Off.*).

Dose.—$\frac{1}{5}$ to $\frac{1}{2}$ grain, which may be increased. In a pill it may be combined with sugar of milk and glycerine of tragacanth.

In silky white flexible acicular prisms, but usually met with in amorphous white powder, soluble 1 in 26 of water. It is stable, and the most frequently used of the salts of Morphine.

Linctus Morphinæ, U.C.H.

Solution of Hydrochlorate of Morphine	3 minims.
Spirit of Chloroform ...	3 minims.
Treacle, Honey, or Glycerine	60 grains.
Water to	1 drachm.

Mix. May be more agreeably flavoured with syrup of lemon as a vehicle.

Dose.—A teaspoonful 3 or 4 times a day; or the dose may be repeated frequently at times when cough is troublesome, till the paroxysm is subdued. It should be taken undiluted, swallowed slowly, and allowed to hang about the throat. For children of 8 to 14 years, dose 10 to 20 drops. It is not suitable for very young children, or where there is difficulty of expectoration in bronchitis.

Liquor Morphinæ Hydrochloratis (*Off.*).

Dose.—10 to 60 minims, contains 1 per cent. of hydrochlorate of morphine in of rectified spirit 24, distilled water 73, with 2 of diluted hydrochloric acid.

Suppositoria Morphinæ (*Off.*).

Contain $\frac{1}{2}$ grain of hydrochlorate in each. They are also usually kept, containing only $\frac{1}{4}$ grain, as well as other strengths.

Suppositoria Morphinæ cum Sapono (*Off.*).

Contain $\frac{1}{2}$ grain of the hydrochlorate in each also, but are never ordered, and have a bad basis.

Trochisci Morphinæ (*Off.*).

Contain $\frac{1}{30}$ grain of the hydrochlorate in each lozenge, with a sugar basis flavoured with tolu. They are more agreeable if made with black currant paste basis.

Trochisci Morphinæ et Emetin, see p. 170.

Trochisci Morphinæ et Ipecacuanhæ (*Off.*).

Contain $\frac{1}{30}$ grain of the hydrochlorate of morphine, with $\frac{1}{12}$ grain of ipecacuanha in each. These lozenges are often given to allay cough—one 5 or 6 times a day.

Morphinæ Meconas.—Meconate of Morphine.

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain.

This is the natural salt of morphine existing in opium, and, when pure, is in white minute acicular crystals, soluble 1 in 34 of water. It is said to disturb the head less, as well as derange the stomach and bowels less, than the other salts of morphine administered either by the mouth or hypodermically.

Liquor Morphinæ Bimeconatis (*Off.*).

Dose.—5 to 40 minims.

The tedious official process may be simplified as follows:—

Morphine (pure Alkaloid) ...	$13\frac{1}{2}$ grains.
Meconic Acid	12 grains.
Rectified Spirit	1 ounce.
Mix and add	
Distilled water to	4 ounces.

A perfect solution is formed instantly. One ounce is said to contain about $5\frac{1}{2}$ grains or $1\frac{1}{4}$ per cent. of bimeconate of morphine, and as regards this is about the same strength as tincture of opium. It is in reality stronger, and contains about $6\frac{1}{2}$ grains in an ounce.

Morphinæ Sulphas (*Off.*).

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain.

In hard white silky acicular crystals, is a stable salt of morphia and the one preferred in the United States. Soluble 1 in 23 of water.

Liquor Morphinæ Sulphatis. Used in the United States.

Dose.—1 drachm or more. Contains 1 grain in an ounce of distilled water. A preparation known as Magendie's solution of morphine is also used in the United States; it is 16 times stronger than the above (containing 16 grains in the ounce). Magendie's solution in France is slightly stronger than that of the United States; it contains 1 part of acetate of morphine in 37½.

Morphinæ Tartras.

Dose.—⅛ to ½ grain.

Neutral tartrate of morphine in commerce is a white amorphous powder resembling the commercial hydrochlorate. Readily soluble in water, 1 in 10; has been recommended for hypodermic injection.

Injectio Morphinæ Tartratis Hypodermica.

Dose.—1 to 6 minims.

Tartrate of morphine ...	30 grains.
Distilled water	6 drachms.

Dissolve.

References.

Antagonism of atropine, $\frac{1}{20}$ grain = 1 grain of morphia in cases of poisoning; small doses of the former should be frequently repeated hypodermically.—B.M.J. i./81,239.

Antagonism of caffeine, coffee, tea, &c., to Morphine. —B.M.J. ii./74,615,674,679,771.

MUSCARINÆ NITRAS.

Muscarine Nitrate.

Dose.—(?) ½ to ¾ grain hypodermically causes free perspiration, &c., like Pilocarpine.

Muscarine is an uncrystallizable alkaloid obtained from the fungus, fly agaric—*Agaricus* or *Amanita muscaria;* it has also been obtained, as a derivative, from brain substance. Nitrate of Muscarine, the only preparation met with in commerce, is also uncrystallizable; it is a viscid, yellowish brown liquid, hygroscopic, and soluble in water.

It resembles Pilocarpine in action and is almost completely antagonistic to atropine, one exception being that, applied topically to the eye, it dilates the pupil, like gelsemium, but given internally it contracts it. It produces salivation, perspiration, flow of tears, and purgation.—R.

Useful in checking night sweating. Ext. Muscariæ was used.—Pr. xxv.89.

Antagonistic to atropine, acts like pilocarpine.—Pr. xxvi.5.

Further, see Das Muscarin, Schmiedeberg und Koppe (Leipzig, 1869; F. C. Vogel).

Atropine is an antidote of the effects of poisonous mushrooms, $\frac{1}{120}$ grain injected hypodermically and repeated if necessary until the dyspnœa is relieved.—B.M.J. ii./74,617.

Physiological experiments—its antagonism to atropine.—Trans. Med. Congress, 1881, i. 508; B.M.J. ii./82,529.

Note on its physiological action.—L. i./83,336.

MYRICIN.

Dose.—2 to 5 grains, in a pill with glycerine of tragacanth.

The powdered extractive obtained from the bark of stem and root of bayberry, *Myrica cerifera*. Is astringent and stimulant, in large doses emetic—used in diarrhœa and jaundice.

References.

On the dog is a very powerful stimulant of the liver. During the increased secretion of the bile, the percentage of the special bile solids is not diminished. If the dose be too large, the secretion of bile is not increased. It is a powerful intestinal irritant.—B.M.J. Rep. 1878,4; B.M.J. i./79,177.

NAPHTHOL.

β Naphthol.

Syn.—NAPHTHYL ALCOHOL.

A coal-tar derivative with a faint storax odour; when sublimed, is in white shining laminar crystals, soluble in alcohol, ether, chloroform, and benzine, sparingly soluble in hot water, but soluble 1 in 8 of olive oil and lard, and 1 in 80 of vaseline. Has the advantage in skin diseases generally of being odourless and colourless. In advanced scabies, an ointment of 10 to 15 per cent. cures the eczema as well as destroys the parasite, but the following ointment is preferred:—Naphthol 15, lard 100, green soap 50, prepared chalk 10. Useful also in psoriasis.—B.M.J. ii./81,612; B.M.J. i./82,47,156.

Napthol 5, alcohol 100, glycerine 10, is a remedy for hyperidrosis of palms, soles, and axillæ.—Pr. xxxi.219.

Naphthalin.

A hydrocarbon formed in large quantities in the manufacture of coal gas. It is when pure in shining white rhomboid crystalline plates, with a strong tarry odour; it is insoluble in water, acidulated or alkaline, but is soluble in ether, hot alcohol, and in fats, fixed and volatile oils.

Used in antiseptic dressings with success as an alternative to iodoform.—B.M.J. ii./82,1051.

A 10 to 20 per cent. solution in oil is successful as a parasiticide in scabies, but does not relieve the secondary eruptions.—L. ii./82,909.

NARCEINA.

Narceine.

Dose.—½ to 1 grain, in a pill with glycerine of tragacanth.

An alkaloid obtained from opium in light white, flexible silky crystals. Has a slightly bitter taste—is a weak base, soluble 1 in 400 of water, very soluble in spirit, insoluble in ether. It is a soporific, produces no constipation, less headache and perspiration than morphia.—R.

References.

More soporific than morphine and codeine, and the sleep more profound.—L. i./66,250.

Hypnotic use of, and to check cough of pertussis.—B.F.M. Ch.R. ii./66,526.

Causes sleep rather than allays pain, used as a sedative in violent cough.—B.F.M. Ch.R. i./67,527.

Prosopalgia (faceache) cured by hypodermic use of.—B.F.M. Ch.R. i./72,127.

The most soporific of the opium bases, and less poisonous than thebaine, codeine, and papaverine.—B.F.M. Ch.R. i./72,509.

Is a pure but feeble narcotic, 5 grains or more are required to produce slight tendency to sleep.—Pr. i./68, 289.

NARCOTINA.

Narcotine.

Dose.—1 to 3 grains, or more, in a pill with glycerine of tragacanth.

An alkaloid obtained from opium, in white inodorous crystalline prisms. It is a very weak base, insoluble in water, soluble 1 in 3 of chloroform, 1 in 100 rectified spirit, 1 in 125 ether, soluble also in benzol. Possesses antiperiodic properties, like quinine, some considering it superior, in doses of 1 to 3 grains.—R.

References.

Antiperiodic for remittent fever. $1\frac{1}{2}$ to 3 grains; in doses of 10 grains, produces diaphoresis.—L. i./62,53.

In India, for ague, considered second only to quinine. —M.T.G. ii./62,203.

In 8-grain doses has no narcotic nor anæsthetic effect.—Rank. ii./72,125.

NICOTINA.

Nicotine.

Dose.—$\frac{1}{6}$ to 1 grain.

A colourless volatile liquid alkaloid, obtained from the tobacco—*Nicotiana Tabacum.* Darkens with age, has a strong, disagreeable odour, soluble in water, more so in rectified spirit and ether.

References.

Tetanizes the heart, has been highly praised for tetanus. Many recorded cases appear to show its usefulness in this disease.—R.

Physiological effects.—B.F.M.Ch.Rev. i./56,243.

Is an antidote to strychnine.—Rank. ii./66,225.

NITROGLYCERINUM.

Nitroglycerine.

Syn.—GLONOINE; TRINITRATE OF GLYCEROL; NITRIC ETHER OF GLYCERINE (formerly considered as the Trinitrite of Glycerol or Nitrous Ether of Glycerine).

Dose.—$\frac{1}{200}$ to $\frac{1}{50}$ grain increased to $\frac{1}{10}$ grain.

This dangerous explosive substance has of late been brought into medicinal use, and proved of great service, especially in angina pectoris. It is obtained by gradually dropping pure glycerine into a mixture of sulphuric and fuming nitric acids kept cool by iced water. The Nitroglycerine is separated by pouring the mixture into a large quantity of water, and well washed by agitation with several supplies of cold water, till free from acidity. It is then collected as a dense, opaque white, oily liquid, and carefully dried in thin layers in a warm room, when it becomes dehydrated, transparent, and colourless, and of Sp. Gr. 1·600. It drops in very small drops. It has no odour, yet is slightly volatile, has a sweet aromatic, pungent taste, and produces headache, which, if dose be large, lasts some hours. It is slightly soluble in water, freely soluble in ether, 1 in 6 of almond oil, freely soluble in absolute alcohol, and 1 in 15 of rectified spirit. Three parts mixed with and absorbed by one part of an infusorial earth, so as to become solid, forms Dynamite, which is much used for blasting purposes. The alcoholic solution, containing 1 per cent., was first used medicinally; but, as complaints were made to the author that it was inconvenient for patients to carry a liquid medicine about with them, as they were required to do, to ward off attacks of angina, he, having discovered that nitroglycerine was soluble in oils and fats, dissolved it in oil of theobroma and combined this with chocolate to form tablets, which he adjusted in strength to contain $\frac{1}{200}$, $\frac{1}{100}$, $\frac{1}{50}$, and $\frac{1}{25}$ grain of Nitroglycerine in each. Those containing $\frac{1}{100}$ grain are the most suitable for general use. The fatty basis can also be made into white transparent coated pills containing doses similar to the tablets. A one per cent. oily solution is recommended as being more stable than the alcoholic solution. Nitroglycerine, especially if not perfectly pure, is liable to explode spontaneously, but in fatty or oily solution it is perfectly safe and stable.

Nitroglycerine, in two minutes after taking a dose, accelerates the pulse, relaxes the arteries, produces a feeling of fulness all over the body, but particularly in the head by a throbbing at the sides of the temples. It also causes headache, which lasts from 15 minutes to several hours, according to the quantity taken; but to patients accustomed to its use the headache is not felt. In treating angina pectoris, neuralgia, asthma, headache, sea-sickness, and Bright's disease, its action is like nitrite of amyl, but its effects last much longer.

Preparations.

Injectio Nitroglycerini Hypodermica.

Dose.—1 to 4 minims.

Nitroglycerine Solution, 1 per cent. (as below)	5 drachms.
Rectified Spirit...	2 drachms.
Distilled Water to	$1\frac{1}{2}$ ounces.

Contains $\frac{1}{240}$ grain in 1 minim. Acts promptly; useful in collapse, &c., when the patient cannot swallow.

Liquor Nitroglycerini, 1 per cent.

Dose.—$\frac{1}{2}$ to 2 minims, gradually increased to 10 minims, if necessary, every 3 or 4 hours, in any aqueous vehicle.

Nitroglycerine	1 grain.
Rectified Spirit to	100 minims.

Dissolve. A five and a ten per cent. solution in absolute alcohol are also prepared commercially, but they are not safe for use in dispensing.

Oleum Nitroglycerini, 1 per cent.

Dose.—1 to 2 drops or more on sugar.

A one per cent. solution in almond oil.

Pilula Nitroglycerini.

Is made with the theobroma-oil basis to contain $\frac{1}{100}$ to $\frac{1}{50}$ grain or more.

Tabellæ Nitroglycerini, Nitroglycerine Tablets (*Off.*).

Syn.—TROCHISCI NITROGLYCERINI, L.H.

Introduced by the writer in 1878, now recognised as official, $\frac{1}{100}$ grain in each. The tablets have the nitroglycerine in solution in chocolate, in a perfectly safe, stable, and palatable form.

Dose.—One tablet every three or four hours to relieve or ward off attacks of angina pectoris, sea-sickness, neuralgia, Bright's disease, headache, &c. A tablet should be eaten and quickly swallowed when an attack of angina threatens; for this their use is preferable to the pills, which require a few minutes to dissolve. A dose of any preparation of nitroglycerine acts more promptly if taken on an empty stomach.

The tablets are also prepared containing $\frac{1}{75}$, $\frac{1}{50}$, and $\frac{1}{25}$ grain in each, for those accustomed to their use, as well as $\frac{1}{200}$ grain in each, for administration to ladies, delicate persons and children, for whom this is a sufficient dose to ward off sea-sickness.

They are attractive in appearance, and cannot be distinguished by the taste alone from ordinary chocolate creams.—L. i./79,850.

In a case of angina pectoris in which they were prescribed the relief afforded was most marked. . . . . They are certainly active; whilst they are agreeable to the taste.—B.M.J. i./79,899.

Fifty per cent. of cases of sea-sickness are benefited by the nitroglycerine tablets.—B.M.J. ii./80,512,691.

Found the nitroglycerine tablets the most convenient and ready method of using nitroglycerine.—B.M.J. ii./81,424.

The best method of administration is in the form of lozenges. They should be taken when the patient is threatened with an attack of asthma; or, if the attacks occur in the night, at bedtime, or whenever the patient wakes.—B.M.J. ii./81,543.

Cases of angina pectoris treated with success in doses of one minim of 1 per cent. solution of nitroglycerine, upwards to, in one case, 10 minims every 3 or 4 hours, or as attacks required it.—L. i./79,80,115,151,225. *Reprinted as* "Nitroglycerine in angina pectoris," by W. Murrell.

Two minims of 1 per cent. solution every 3 or 4 hours, or 5 minims when an attack threatened in a case of angina pectoris gave complete relief—great boon to sufferer, who had perfect confidence in being able to control attacks.—L. i./79,578.

Checks the paroxysms of angina, $\frac{1}{100}$ to $\frac{1}{50}$ grain every 4 hours. The dose may be increased up to $\frac{1}{5}$ grain.—Pr. xxii.208; Br. ii./79,xxix.

Studies on its therapeutic uses.—B.M.J. i./80,406,487; M.R. 1883,87.

Bright's disease, acute and chronic, and in vascular tension of the aged, the 1 per cent. solution in dose of 1 to 3 minims was successful.—B.M.J. ii./80,803.

Myxœdema, case of, treated successfully with $\frac{1}{50}$ grain doses of nitroglycerine in conjunction with elaterium purgings.—L. i./82,440.

Puerperal convulsions, $\frac{1}{100}$ grain every hour arrested in 4 or 5 doses. Nitroglycerine also acts as an aperient, causing free evacuation of the bowels.—B.M.J. i./82,573.

The alcoholic solution 1 per cent. relieves toothache applied on cotton wool in the cavity of a carious tooth.—Pr. xxvii.285.

In epileptic vertigo, 1 to 2 minim doses of 1 per cent. solution quite relieved.—Pr. xxx.105.

In migraine, due to anæmia, a minim of 1 per cent. solution repeated every half-hour, if desirable, useful also in epilepsy, especially in cases of *petit mal* given in conjunction with bromides.—New York Med. Jour., Dec. 1882,662.

In a case of angina pectoris, the effect of 1 per cent. solution in 1 to 3 minim doses compared with that of nitrite of soda.—Pr. xxx.179,321.

In uræmic asthma, $\frac{1}{100}$ grain doses thrice daily, was useful.—B.M.J..i./83,811.

In chronic albuminuria, $\frac{1}{100}$ grain every 3 or 4 hours, found useful.—M.T.G. i./84,538.

On account of its stimulating effect on the heart and blood vessels, is recommended as a substitute for alcohol where brandy is indicated; dose is small and tasteless, and its action is almost immediate. Useful in collapse from chloroform, or typhoid and other fevers, shocks from accidents, and nausea and faintness from surgical operations.—L. ii./85,259.

In nephritis, it increases the amount of urine, whilst lessening the amount of albumen.—Pr. xxxiv.67; L. ii./85,733.

NUX VOMICA.

Nux Vomica (*Off.*).

Dose.—1 to 5 grains in powder.

The galenical preparations of the seeds of *Strychnos Nux-vomica*, are now required to be standardised. In preparing

Extractum Nucis Vomicæ (*Off.*).

Dose.—$\frac{1}{2}$ to 2 grains (but often less).

The powdered seeds are percolated with a mixture of distilled water 1, rectified spirit 4 (this mixture exhausts Nux Vomica better than rectified spirit alone), and the percolate concentrated by distillation and evaporation to an extract, which must contain 15 per cent. of total alkaloids. By dissolving 133 grains of this extract in distilled water 4 ounces and rectified spirit *q.s.* to form a pint, it forms:—

Tinctura Nucis Vomicæ.

Dose.—10 to 20 minims (or often less). One ounce contains one grain of Nux Vomica alkaloids.

From St. Ignatius Beans, the seeds of *Strychnos Ignatii* (allied to Nux Vomica), 1 part, and a mixture of rectified spirit 3 and water 1, *q.s.* to produce 10 parts, is prepared:—

Tinctura Ignatii.

Dose.—3 to 20 minims.

Gouttes Amères de Baumé (Codex) are 1 in 2. *Dose* 1 to 8 minims.

Strychnina.—See p. 316.

OLEATA.

Oleated Preparations.

Acidum Oleicum, Oleic Acid (*Off.*).

A pale-sherry-coloured oily liquid (at ordinary temperatures) with a slight but not disagreeable odour, obtained by the saponification of olein, or by the action of superheated steam on fats, and afterwards separating by pressure the liquid oleic from the solid fatty acids. It is faintly acid to test paper, insoluble in water, but is dissolved readily by rectified spirit, ether, chloroform, benzol, and fixed oils; it dissolves most metallic oxides, thus forming indefinite oleic solutions of oleates in an excess of Oleic Acid; such combinations of bismuth, copper, lead, mercury, and zinc are used medicinally; they are soluble in oils, fats, and petroleum ointments. Those of mercury and zinc are most in request. Oleic Acid also dissolves alkaloids, but not their salts, *e.g.* Oleate of Aconitine (see Aconitina, p. 65), Oleate of Atropine (see Atropina, p. 87), Oleate of Morphine (see Morphine, p. 236), and Oleate of Veratrina (see Veratrine, p. 333), are used medicinally. One part of Quinine (alkaloid) is dissolved by 3 of Oleic Acid forming **Oleatum Quininæ,** which is applied externally and is readily absorbed, and 8 grains (=2 grains of Quinine) added to one ounce of cod-liver oil forms Oleum Morrhuæ cum Quininâ. Oleic Acid, although a derivative of oils, is much more readily absorbed by the skin than oils. It also aids the absorption of drugs with which it is combined.

Résumé of the use of the oleates and their preparation. —B.M.J. ii./84,749.

Preparations.

Oleanodyne.

A special preparation combining the alkaloids aconitine, atropine, morphine, and veratrine, with oleic acid. It is rapidly absorbed, and forms a strong anodyne liniment, which can be diluted with chloroform, rectified spirit, or oils. It is not so compatible with compound camphor or soap liniment.

Cupri Oleas.

Is best prepared by the double decomposition of a hot solution of sulphate of copper, 3 in 8 of water, added to a hot solution of Castile soap 8 in 32, washing and drying the pasty precipitate. When cold it is in solid dark-green masses. It is in reality an oleo-palmitate of copper; may be employed as a plaster for warts and corns.

Unguentum Cupri Oleatis.

Oleate of Copper	1 ounce.
Petroleum Cerate (p. 263)...	4 ounces.

Melt and stir till cold. A softer ointment may be made by using vaseline as the basis, and for some purposes it may be employed half the above strength.

Is specially useful in ringworm—lightly rubbed in night and morning,—for indolent ulcers, warts and corns, and is recommended for removing freckles.—M.R. 1882,449; P.J. 1882,303; L. i./83,250; Edin.Med. Jour. 1884,566.

Oleatum Hydrargyri *(Off.)*. 10 per cent.

Yellow Oxide of Mercury ...	1 part.
Oleic Acid	9 parts.

To the acid, kept agitated in a mortar, sprinkle in the oxide gradually, and stir frequently during 24 hours, until the latter is all dissolved and a light brown semi-oleaginous liquid is formed.

Oleatum Hydrargyri (5 per cent.) **cum Morphinâ, U.C.H.; R.O.H.; T.H.**

Pure morphine, one grain, is dissolved in a drachm of the above.

Oleatum Hydrargyri (5 per cent. and 20 per cent.), **U.C.H.,**

Are prepared respectively with one-half and twice as much oxide as the 1 per cent., and when ordered with morphia 1 grain is added to each drachm of the oleate when dispensed. These preparations do not keep well with the morphia in combination. The 10 per cent. is always dispensed unless one of the others is specially ordered. It is also the official Oleatum Hydrargyri, U.S. These oleates should be applied with a brush, or lightly spread over the part with the finger, and covered with a linen rag or silk handkerchief; otherwise, if used with much friction, they may cause some cutaneous irritation. The addition of morphia is indicated where there is pain in the part, or the simple oleate itself causes much pain. The case and the age of the patient will indicate which strength of oleate should be used. As a rule, according to the size of the part affected, 10 to 30 drops, or a piece from the size of a bean to a nut, should be rubbed in twice a day for 4 or 5 days, then at night only, afterwards every other day till cured. The application does not salivate unless used in excessive quantity. In persistent inflammation, especially of glands, and joints (such as synovitis), and in non-ulcerated syphiloderma, the Oleates of Mercury are much more active, definite, and cleanly, than the mercurial ointment, which is dirty and uncertain.—L. i./72,709.

In syphilitic affections it is most serviceable, being a certain and less disagreeable cutaneous application than ointments, and really hastens the subsidence of papules and other disfigurements of exposed parts of the skin; is also a very effective parasiticide in pediculi.—Pr. x.204.

Cases of ringworm, one on scalp, cured by 10 per cent. Oleate. It is a certain, painless remedy, produces no stain, and it destroys the fungus, as it readily permeates the sebaceous glands, hair follicles, and even the hairs themselves. Its penetrating power may be increased by adding one-eighth of ether.—L. ii./73,227.

Ringworm of scalp—the most inveterate cases which had existed for years cured by Oleate of Mercury, 5 per cent. for under 8 years, 10 per cent. for over that age; one-seventh of acetic ether added to it, increases its penetrating power, causes little pain, very often none.—L. i./80,126.

An Oleo-Palmitate of Mercury may be made by the double decomposition of perchloride of mercury and Castile soap. It is an opaque, yellowish, viscid unctuous body, about twice the strength in mercury of the 20 per cent. preparation made by direct combination. It is recommended to be diluted with from 1 to 3 or more parts of an unctuous petroleum such as vaseline for use. It is not a satisfactory pharmaceutical preparation.

Emplastrum Hydrargyri Oleatis.

Lead Plaster ... ... 6 ounces.
Melt and add
Oleo-Palmitate of Mercury 2 ounces.

Mix. Is a useful substitute for mercurial plaster, and for strapping up joints requiring the constant application of Oleate of Mercury.

Oleatum Plumbi.

Lead Plaster, B.P., is a crude Oleate of Lead, made by the combination of olive oil (oleate and palmitate of glyceryl) and oxide of lead heated together in the presence of water. Thus made, the oleate possesses more adhesiveness than when prepared by the oleic acid solution of the oxide. Yet an ointment made by the latter process has been used in skin diseases as follows:—

Unguentum Plumbi Oleati.

Litharge in powder ... 3 ounces.
Oleic Acid ... ... 9 ounces.
Heat gently till dissolved, and add of
Petroleum, heavy inodorous. 6 ounces.

Mix, and stir till cold. Soon becomes rancid.—Pr. xxxiii. 348.

It has been suggested to make oleate of lead, like the oleo-palmitate of mercury, by the double decomposition of Castile soap and solution of subacetate of lead.—P.J., 1881, 457.

The preparation of lead so obtained is free from glycerine, but cannot be reduced to powder like the oleate of zinc prepared in this way, yet **Pulvis Plumbi Oleatis Compositus** is prepared, consisting of this oleate 1 part with 4 parts of starch.

Plumbi Stearas.

This can be prepared by adding solution of subacetate of lead 2, diluted with boiling water, to a hot solution of curd soap, 1 in 8 of distilled water, washing the pasty precipitate, drying and reducing to powder. It is a white, or almost white, powder, and may be employed as a dusting powder to allay itching of the skin, acute and chronic eczema—is better diluted with kaolin or starch, 1 to 2 or 4 of latter powders, or a mixture of them.

The following ointment was largely prescribed by the Viennese skin physician, Hebra, as a remedy for eczema, excessive perspiration of the feet, &c. It is in reality an oleate of lead ointment.

Unguentum Diachyli (original formula).

Olive Oil	15 ounces.
Boiling water	32 ounces.

Heat, and add gradually,

Litharge in powder... ...	3¾ ounces.

Continue the heat, adding more water if necessary, and stir constantly till combined, and while cooling. When cold stir in

Oil of Lavender	2 drachms.

In cold weather an extra ounce of oil should be allowed for every pound of ointment. It should be rubbed in 1 to 3 times a day, or spread on linen and applied as a plaster.

The author modified this as

Unguentum Plumbi, U.C.H.

Adopted as **Unguentum Diachyli**, P.G. 1882.

Lead Plaster	½ ounce.
Olive Oil (by weight) ...	½ ounce.

Melt together. But, as both the above are prone to become rancid, he further, in 1875, modified it, when he introduced vaseline to the medical profession, by suggesting its being made as follows:—

Unguentum Diachyli, B.S.H.

Lead Plaster Vaseline	of each ½ ounce.

Melt together and stir till cold. Made thus, the ointment keeps well, and does not acquire a disagreeable odour. Kaposi (son-in-law of Hebra) has adopted this, when perfumed with oil of bergamot, as *Unguentum Vaselini Plumbicum.*—Pr. xxii.124; Br. i./79,lix.

Oleatum Zinci (*Off.*).

Oxide of Zinc	1 ounce.
Oleic Acid	9 ounces.

Mix and heat together till combined.

Chartazinc.

Tissue paper impregnated with oleate of zinc; this hastens the healing process and is a healthy stimulant to chronic ulcers, especially those of long standing, and large sores left after burns.—B.M.J. ii./78,691.

Unguentum Zinci Oleati (*Off.*).

Oleate of Zinc } of each 1 ounce.
Vaseline }

Melt together and stir till cold. For some cases further dilution with vaseline is advisable. This ointment, having the zinc in solution, has the advantage over zinc ointment B.P., in most cases in which the use of this is indicated, in not coating the sore, to which it is applied, with a crust of débris, which checks healing and irritates the part on removal.

Chronic eczema, cases of, cured by above ointment.—B.M.J. ii./78,622; B.M.J. i./79,652.

Further, found useful in eczema; one drop of otto of rose covers its faint smell.—B.M.J. i./79,586.

When required to be spread on lint or rag, the following harder ointment is preferred; it does not liquefy or ooze through the dressing and grease the patient's clothes; as it sticks more firmly to the dressing than to the skin, on removal, the wound or sore is left free from any adhering ointment, &c., but it is not adapted for smearing on a sore.

Unguentum Zinci Oleati Durum.

Oleate of Zinc } of each 1 ounce.
Petroleum Cerate (p. 263) }

Melt together and stir till cold.

The **Metallic Oleates** may be made by the double decomposition of a soluble metallic salt and Castille soap (as oleate of copper, p. 188). Thus made, the Oleates contain no free oleic acid, but they are more contaminated by palmitates than if prepared by direct combination of the oxide with free oleic acid. A zinc preparation of this kind is prepared as follows:—

Pulvis Zinci Oleatis.

Castille Soap	1 lb.
Boiling Water	6 pints.

Apply heat till dissolved.

Sulphate of Zinc	7 ounces.
Boiling Water	16 ounces.

Dissolve and add to above solution; stir well, separate the water from the Oleate floating on the top, and wash the latter with hot water till free from sulphate, then cool, dry, and reduce to fine powder. It resembles powdered French chalk in appearance, and is useful for dusting on eczematous surfaces and parts troubled with excessive perspiration. It may be perfumed by the addition of $\frac{1}{300}$ of thymol, and diluted with kaolin or starch. It is *the* remedy for hyperidrosis and osmidrosis. — L. i./82,974; M.R. 1882,449.

OLEUM GYNOCARDIÆ.

Chaulmoogra Oil.

Dose.—2 to 15 grains, filled into empty capsules or in cod-liver oil or milk.

The oil expressed from the seeds of *Gynocardia odorata,* imported from India. It has a pale brownish colour and a disagreeable taste and smell. It is always solid and unctuous in this climate, as it contains a quantity of palmitic acid, with three other fatty acids; of these **Gynocardic Acid** is supposed to be the active ingredient of the oil. *Dose:*—½ to 3 grains. It is applied externally, and given internally *after meals* for leprosy, phthisis, and scrofula, marasmus, psoriasis and lupus. For chronic rheumatism and rheumatic gout it forms a useful application with gentle friction. For phthisis 2 to 4 ounces should be rubbed into the chest weekly.—B.M.J. i./81,475,559; i./79,431,968; B.M.J. ii./80,844. Pr. xxi.321; B.M.J. Pr. xxii.241.

In old standing eczema, with thickening of the skin, applied pure or as an ointment was useful.—Pr. xxvi.55.

Unguentum Gynocardiæ, Chaulmoogra Ointment.

Chaulmoogra Oil	1 ounce.
Petroleum Cerate	3 ounces.

Melt and stir till cold.

OLEUM SANTALI.

Oil of Sandalwood (*Off.*).

Syn.—Oleum Santali Flavi, Yellow Santal Oil.

Dose.—10 to 30 minims.

The oil distilled from the wood of *Santalum album.* A yellowish liquid, with a somewhat roseate odour, and an aromatic bitterish, slightly acrid taste. Has been employed in the treatment of gonorrhœa and gleet.

It quickly checks the discharge in dose of 15 minims 3 times a day.—Pr. xxvii.440.

In 100 cases of gonorrhœa employed with satisfactory results.—Glasgow Med. Jour., April, 1865.

In 19 cases of gleet, 13 with marked benefit; in 6 it failed; but in 4 of the latter the stomach could not bear the full dose.—B.M.J. ii./67,7.

Taken internally in conjunction with the use of iodoform and eucalyptus bougies, with success.—L. ii./82,215.

Capsules of Santal Oil are prepared, containing 10 minims in each, or it may be administered as an emulsion, *e.g.*

Mistura Olei Santali.

Oil of Sandalwood	...	2 drachms.
Tragacanth, in powder	...	30 grains.

Mix. Add quickly

Water to	...	8 ounces.

Shake well. Aromatic water or syrup may be used.

Dose.—One ounce.

PANCREAS.

In the pancreatic juice of man four distinct digestive ferments are believed to be contained, viz.:—

a. Trypsin—changes proteids into peptones in alkaline and neutral media.

b. Curdling Ferment—curdles the casein of milk.

c. Pancreatic Diastase—changes starch into sugar and dextrin.

d. Emulsive Ferment—emulsifies and partially saponifies fats.

B.M.J. ii./79,683; B.M.J. i./80,540.

For invalids, aged persons, and those suffering from weak digestion, or those prostrated by fever or exhaustion, preparations of the pancreas of the pig (an omnivorous animal) may be employed, by means of which food may be partially or wholly digested previous to administration; their nutrition is thus maintained, and the stomach has time to regain its wonted powers of digestion.

Extractum Pancreatis (Fairchild).

An American preparation, is sold in three forms:—(1) The powder put up in ¼-ounce and 1-ounce bottles; requires the addition of bicarbonate of sodium; is used for peptonising beef-tea, milk, and gruels. (2) Tablets of Extractum Pancreatis weighing 3 grains. *Dose.*—one or two an hour or so after meals. (3) Peptonising powders in glass tubes, each containing 5 grains of Extractum Pancreatis and 15 grains of bicarbonate of sodium; are used for peptonising milk, gruel, &c.

Pancreatine.

Dose.—2 to 4 grains. Sold in bottles with a dose measure.

A desiccated preparation of the Pancreas, mixed with powdered malt. It is very hygroscopic, and if carefully prepared contains the active principles of the Pancreas.—Proc. Roy. Soc. xvi.209; B.M.J. ii./80,841.

Liquor Pancreaticus (Benger's).

Is made by treating 1 part of the pancreatic tissue of the pig with a mixture of 1 part of rectified spirit and 3 parts of water, and filtering the liquor.—Proc. Roy. Soc. xxxii.145.

This solution possesses the amylolytic or diastasic properties of converting starch into dextrin and sugar (maltose and dextrose), and the proteolytic or tryptic action of converting albumen and fibrin into peptones, and of first curdling and then peptonising milk.

Dose.—1 to 2 drachms in a little water with meals; or mixed with food, such as farinaceous gruels, bread-and-milk, or arrowroot, when cool enough to sip; or, when given to aid intestinal digestion, 1 or 2 drachms in water with a pinch of bicarbonate of soda 2 or 3 hours after a meal. As an addition to nutritive enemata, a dessertspoonful should be added to beef tea or milk gruel just before its administration. Liquor Pancreaticus will not keep diluted and a temperature much over 140° F. destroys the ferment, which does not act in an acid medium.—B.M.J. ii./79,683,724; B.M.J. i./80,539,575, 614,647,683; L. i./80,513,549,589,629,705,753,827.

Peptonised Milk.

Dilute a pint of milk with a quarter of a pint of water, and heat to a lukewarm temperature, about 140° F. (or the diluted milk may be divided into two equal portions, one of which may be heated to the boiling point and then added to the cold portion, the mixture will then be of the required temperature). Add two teaspoonfuls of Liquor Pancreaticus, with a pinch of bicarbonate of soda. Pour the mixture into a covered jug and place in a warm situation. At the end of an hour or an hour and a half, or when not more than slightly bitter, boil the product. It can then be used like ordinary milk.

Peptonised Beef Jelly. Sold in tins.

An extract of beef containing much of the fibrin converted into peptone or partially digested by pancreatic trypsin. May be taken by teaspoonfuls as a restorative, or added to soups, &c.—Trans. Med. Congress, 1881, i. 517.

A **Saline** and a **Neutral Essence of Pancreatine** are prepared by Savory & Moore. *Dose* of each, 1 to 2 drachms diluted. The Neutral Essence has properties like Liquor Pancreaticus, and the Saline Essence is prepared with common salt.—B.M.J. i./80,438,473,512.

Pancreatic Emulsion.

Prepared by mixing and pounding the pancreas of the pig with lard and water, straining, and exhausting the strained substance with ether. The ether forms a solution of pancreatised fat. From this the ether is distilled, and the fat mixed with a mixture of rectified spirit and water (1 to 3) and emulsified by agitation. Oil of cloves is added to flavour and preserve it.—Proc. Roy. Soc. xvi.209; L. ii./64,288; L. i./65,620; L. ii./65,534,562; L. ii./66,542.

Dose.—1 to 3 drachms, in a little milk or water, with a little spirit added, if liked, once or twice a day 1 or 2 hours after a meal. Given in consumption and other wasting diseases attended with loss of power to digest and assimilate food, especially where fats and cod-liver oil do not agree with the stomach.

Although the fat is first pancreatised and *then* emulsified, much of the value of the above preparation is due to its containing an animal fat, rich in stearine, in a suitable condition to be readily assimilated. The writer has succeeded in preparing an emulsion of lard, for hospital purposes, by the following formula:—

Emulsio Adipis, Fat Emulsion.

Prepared Lard	15 ounces.
Boiling Distilled Water ...	30 ounces.
Tragacanth, in powder ...	300 grains.
Essential Oil of Almonds ...	15 minims.

Melt the lard, add the tragacanth, and mix. Then pour in the boiling water, and stir with a whisk till nearly cold, add the oil of almonds, mix well, and put into well-corked wide-mouth bottles.

Dose.—1 to 3 drachms, mixed with milk and a little rum added, if liked, once or twice a day after a meal, or early in the morning before breakfast.

Pancreatised Farinaceous Food (Benger's).—Wheat flour, partially dextrinised by dry cooking, is impregnated with an extract of pancreas; is suitable for infants and invalids; when mixed with milk or milk and water, artificial digestion of the food and milk takes place, which can be checked at any point by boiling.—Trans. Med. Congress, 1881, i.517; L. i./82,489.

Pulvis Pancreaticus Alkalinus (Benger).

Dose.—20 grains in each. Consists of pancreatic enzymes mixed with bicarbonate of sodium, one being sufficient to peptonise a pint of milk in from 10 to 30 minutes, according to the amount of predigestion required.—B.M.J. ii./85,191.

PAPAVERINA.

Papaverine.

Dose.—$\frac{1}{12}$ to $\frac{1}{3}$ of a grain.

An alkaloid from opium, does not readily form salts with acids, is in colourless acicular crystals, insoluble in water, sparingly soluble in spirit, soluble in ether.

Reference.

Said to be a strong narcotic, without producing previous excitement or being followed by headache or giddiness. It contracts the pupil, when it causes sleep and reduces the frequency of the pulse from 20 to 30 beats.—R.

PAPAYOTIN.

Syn.—PAPAIN.

Dose.—1 to 8 grains suspended in water.

A white or whitish amorphous, slightly granular powder, prepared from the juice of the papaw, *Carica* *papaya.* It has the property of digesting fibrin like pepsin, and its action is not checked by the presence of carbolic acid.—Trans. Med. Congress 1881, i.513. P.J. 1880,250,350.

To remove warts, and chronic eczema and hypertrophied condition of the skin of the palms of the hands, a solution of Papayotine 12 grains, Borax 5 grains, water 2 drachms, painted on twice a day was found curative. Recommended also as a solvent of the false membrane in diphtheria.—B.M.J. i./82, 738,845.

Will peptonise 200 times its own weight of pressed fresh blood fibrine.—M.R. 1882,454.

PARAFFINUM DURUM.

Hard Paraffin (*Off.*).

Syn.—PARAFFIN; PARAFFIN WAX; SOLID PARAFFIN.

A mixture of several of the harder members of the paraffin series of hydrocarbons; usually obtained by distillation from shale, separation of the liquid oils by refrigeration, and purification of the solid product. Is colourless, semi-transparent, crystalline, inodorous, and tasteless, slightly greasy to the touch. Sp. Gr. 0·82 to 0·94. Insoluble in water, slightly soluble in absolute alcohol, freely soluble in ether. It melts at 110° to 145° and burns, but not without a wick, with a bright flame, leaving no residue. The range of melting point of this and the next preparation is too wide; melted together, they do not produce a uniform basis for ointments.

PARAFFINUM MOLLE.

Soft Paraffin.

Syn.—PETROLATUM; UNGUENTUM PARAFFINUM.

A semi-solid mixture containing some of the softer or more fluid members of the paraffin series of hydrocarbons. Melts at 95° to 105° F.; is usually obtained by purifying the less volatile portions of petroleum. It is known in commerce by various fanciful names, of which

Vaseline, Vaselinum, or (as termed in former editions of this work) **Gelatum Petroleum,** Petroleum Jelly, is most in demand.

This Petroleum product, of semi-solid, unctuous consistence, translucent, and pale opal yellow in colour, is the oleaginous residue obtained by distilling off the lighter burning oils from certain varieties of crude petroleum; it is purified from volatile products by gently simmering and filtering through animal charcoal; if repeatedly filtered through this, it becomes opal-white in appearance, and is then known as

Vaselinum Album, White Vaseline.

This is most suitable for toilet purposes.

Since first imported, about twelve years ago, there have been several imitations of Vaseline produced; but it is still purer, freer from odour, is less crystalline and granular, and has less tendency to separate than any of its competitors. Among the latter, which the official description includes, are—

Adepsine, Yellow and White; melt completely about 120° F.; White Adepsine is of the consistence of, and resembles, lard in appearance; it is one of the best petroleum substitutes for it.

Chrisma, Cosmoline (Unguentum Petrolei), **Fossiline,** and **Ozokerine** are also found in the market as imitations of Vaseline.

Vaseline is bland, inodorous, and tasteless, unirritating to the skin, mucous membrane, and wounds or sores in any condition. It has the advantage over lard and other fats, in that it is unchangeable—cannot oxidise or become rancid, and thus set up irritation. It cannot be saponified; caustic alkalies have no action on it. Yet Vaseline and ointments made of it can easily be washed off with soap and water.

Vaseline is insoluble in water, only slightly and partially soluble in alcohol, freely soluble in ether and chloroform. When melted, it combines with oils, melted fats, and paraffin wax, oleates, and oleic acid. It readily dissolves thymol, menthol, and salicylic acid; less so chrysophanic acid, and carbolic acid about 1 in 20; the alkaloids dissolve in it in about the following proportions:—atropine, 1 in 30; morphine, 1 in 200; quinine, 1 in 80;

and veratrine, 1 in 80. The oleic acid solutions of these alkaloids dissolve in it in all proportions.

Lard, plain or benzoated, spermaceti ointment, and simple ointment are the four bases suggested for extemporaneous medication by the Pharmacopœia. Lard, the most used and cheapest, has for some purposes, in the summer, too low a melting point; spermaceti ointment is variable and costly; and simple ointment crumbles in winter. Being from animal and vegetable sources, these are all prone to become rancid.

Since Vaseline was introduced to the medical profession and the public into this country by the writer, this and the other inodorous forms of petroleum containing more or less paraffin wax have, in great measure, replaced the before-mentioned preparations as bases for external medication. Still, both classes of bases have their special uses. Where absorption of the medicament by the skin or tissues is required, lard or some animal fat is best adapted for the purpose, *e.g.*, for mercurial inunction, applying iodine, iodide of potassium, or other iodides, to reduce glandular enlargements, and for using aconitine, veratria, or morphia in neuralgia, or relieving pain generally. Lard is often a solvent for these medicaments, or by the intervention of oleic acid, chloroform, or spirit, they may be dissolved in lard, and thus be readily absorbed. Vaseline and its allies are often solvents also; but these petroleum bases are not readily, if at all, absorbed by the skin or tissues. After slightly smearing the hands or other parts of the body with Vaseline, they remain moist for eight hours or more. In this way, Vaseline is an excellent lubricant for the skin,—protects it from exposure, and prevents the drying, hardening, scaling, or cracking of parts likely to do so. By thus protecting and keeping the parts moist, it is very useful in many skin diseases, and for applying to the eruption of scarlet fever or measles, burns, scalds, and chapped and sunburnt skin; it prevents the formation of hard crusts, and is a good basis for many medicaments of which it is a solvent. As it melts about 95° F., it readily liquefies on whatever part of the body it is applied, and brings the affected part directly and completely in contact with the medicament held in solution; also, as it can be painted on in a thin streak, it is admirably adapted as a basis for applying medicaments, either in solution or suspension, to the eyelids, as well as to the conjunctiva and nasal passages. It is likewise well adapted for drugs which turn lard and other fats quickly rancid, such as preparations of lead, mercury, zinc, and iodide of sulphur. Still, where Vaseline, either by itself or as the basis of a medicament which does not dissolve in it, is required to be applied as an ointment spread on lint or rag, it melts so readily, that it becomes absorbed by the dressing, spreads to the surrounding parts, and leaves the medicament dry on the sore. To obviate this, a firmer basis, and one requiring a higher temperature for complete liquefaction is necessary.

In the case of lard, which melts at 110° to 115° F., we have a mixture of the proximate principles stearine and oleine; stearine when pure is solid and brittle, and oleine when pure is liquid; in lard the stearine has crystallized out of solution in the oleine, and the two mix to form a plastic, solid fat, which does not completely liquefy when applied to the surface of the body.

Similarly we require a basis of mixed inodorous solid and liquid paraffins blended by the former having crystallized out of the latter and formed a similar compound to lard. In Vaseline this blending is done by nature, the crystallization is invisible to the naked eye, it is translucent and apparently homogeneous, but its melting point is too low. The writer finds the solid paraffins with higher melting points crystallize in more minute crystals and blend best with Vaseline. He finds the following makes useful hard bases for ointments:—

Ceratum Petrolei.

Vaseline	2 parts.
Paraffin (135° to 140°) ...	1 part.

Melt and stir till cold. For complete liquefaction, this requires a temperature of about 125° F. It does not, therefore, completely liquefy on the surface of the body and is suitable as a basis for ointments to be applied spread on lint or rag, to which it adheres more firmly than to the skin, so that on removal the wound or sore is left clean and free from any adhering ointment, &c. The British Pharmacopœia has adopted this basis, but, as the paraffins ordered are very indefinite, the product varies It orders

Soft Paraffin	2 parts.
Hard Paraffin	1 part.

Or in some the proportions of hard to soft paraffin is 1 to 3; in Unguentum Eucalypti equal parts are used. The authorities have also adopted the formulæ of the writer, with slight modifications in some cases, by employing it to make the following official ointments:—Unguentum Acidi Borici (p. 34), Unguentum Acidum Carbolici (p. 41), Unguentum Acidi Salicylici (p. 59), Unguentum Eucalypti (p. 177), and Unguentum Glycerini Plumbi Subacetatis (p. 196); it forms a new basis likewise for the following official ointments:—Unguentum Hydrargyri Oxidi Rubri, Unguentum Potassæ Sulphuratæ, Unguentum Sulphuris Iodidi, and Unguentum Veratrinæ. As this basis is scarcely at all absorbed by the skin, its use in the last ointment, the writer thinks, is a mistake; to derive benefit from this ointment it should be readily absorbed. Impregnated with any solid medicament, and placed into a wound or on a sore, Ceratum Petrolei slowly allows the former to come constantly in contact with the serous or other discharge, and thus checks any putrefaction. A little rubbed on the skin of the face or hands protects the parts more effectually than simple vaseline.

Oleum Deelinæ, Deelina Oil.

Is a purified petroleum oil, free from odour and taste. Its uses in forty cases of skin diseases.—Pr. xxxiv. 401.

Petrolatum, Petroleum Ointment, U.S.

One having a melting point of 104° F. and another 125° F., are official.

Unguentum Petrolei, Petroleum Ointment, L.H.

Yellow Wax	30 grains.
Vaseline	1 ounce.

Melt and stir until cold.

Cremor Zinci.

Oxide of Zinc	80 grains.
Vaseline	1 ounce.
Perfume	*q.s.*

Mix. Is much superior to violet powder for nursery use.

Paraldehyde.—See Aldehyde, p. 66.

PELLETIERINÆ SULPHAS.

Pelletierine Sulphate.

Dose.—5 to 8 grains.

The sulphate of an alkaloid obtained from Pomegranate Root Bark, *Punica Granatum,* in minute white acicular crystals, freely soluble in water. 5 grains subcutaneously injected is recommended for paralysis, vertigo, Menière's disease, tetanus, and hydrophobia, but mostly used as a remedy for tapeworm; 5 to 8 grains taken fasting, followed by a full dose of compound tincture of jalap, in nine cases out of ten the head is passed; for 13 years, half the above dose, and infants one-tenth.

Pelletierinæ Tannas, Pelletierine Tannate.

Dose.—8 grains.

A greyish white amorphous powder insoluble in water. In tapeworm is an efficient remedy. As a tæniafuge, 8 grains followed in 2 hours by an ounce of castor oil proved an effectual dose, causing neither colic nor headache.—Pr. xxiv.134; Pr. xxxiii.368.

PEPSIN.

Pepsin (*Off.*).

The gastric juice of man is believed to contain two distinct digestive ferments:—

a. Pepsin. This changes proteids (fibrin, albumen, &c.) into peptones in an acid medium. To this the medicinal pepsins principally owe their activity.

b. Curdling ferment, which curdles the casein of milk; this is very active in the stomach of the calf, even when dried: it is contained in the preparations of rennet preserved with common salt, known as essence of rennet.—B.M.J. ii./79,683; B.M.J. i./80,540.

The medicinal preparations of pepsin rarely possess the latter property in an active condition, and their proteolytic or peptonising power is only exerted in an acid mixture.

Pepsin of the pharmacopœia is a light brown yellowish digestive powder, prepared by drying under 100° F. the fresh mucous lining of the stomach of the pig, sheep, or calf. It has a faint, not disagreeable, odour, is little soluble in water or spirit; rubbed with water, it makes a glairy mixture.

Test.—2 grains, with an ounce of distilled water to which 5 minims of hydrochloric acid have been added, form a mixture in which 100 grains of hard-boiled white of egg, in thin shavings, will dissolve on their being digested together for about 4 hours at a temperature of 98° F. That prepared from the stomach of the pig is preferred, and known as Pepsina Porci (Beale's).

Dose.—2 to 5 grains, either with or immediately before or after meals, in a pill with glycerine, or wrapped in wet wafer paper, or sprinked between slices of bread and butter. It is not unpalatable sprinkled on meat like pepper.

Pepsina Amylacea, Pepsine Acide Amylacée ou Poudre nutritive of the French.

Dose.—5 to 15 grains. Is prepared with the addition of starch and slightly acidulated with hydrochloric acid.

Pepsina Saccharata.

Dose.—5 to 15 grains. Has sugar of milk added to the mucous substance to assist in its desiccation; it is preferred in the United States.

Glycerinum Pepsinæ Acidum (Bullock's).

Dose.—1 to 2 drachms in water.

Glycerine is a powerful solvent and preservative of the active principles of the gastric juice. The above preparation is a very active solution slightly acidulated with hydrochloric acid.—Pr. xxiv.192.

In diphtheria, used as a solvent for membrane.—L. ii./81,700.

Lactopeptine.

Dose.—10 to 15 grains, after meals.

A special American preparation, recommended for indigestion, said to be composed of Sugar of Milk 320 parts, Pepsin 64; Pancreatine 48, Diastase 4, and Lactic and Hydrochloric Acids, of each 5 fluid parts.

Experiments, showing its power of digesting coagulated egg-albumen was very weak.—Pr. xxiv.192.

Liquor Pepticus (Benger's).

Dose.—1 to 2 drachms in a wineglassful of water with meals.—B.M.J. ii./80,683.

An active solution of the gastric ferments in weak alcohol.

Pepsin-Essenz (Liebreich's).

Dose.—1 to 2 drachms in water after meals.

This preparation contains principally the curdling ferment in diluted glycerine solution; it is weak in proteolytic power.—Pr. xxiv.192.

Peptone.

A whitish or pale-brown powder, freed from saline matter; is prepared from peptonised meat. It is soluble in water, and is used to add to jelly for germ-cultivation, and as a test for bile products in urine.

Peptonised Beef.

A chocolate-coloured paste, having a bitter taste and the odour of extract of beef; prepared by artificially digesting beef by means of acidified fresh gastric juice and concentrating the solution. It is sometimes added to beef tea, but is too unpleasantly bitter to be readily taken by patients. It forms a useful nutritive enema.

Peptonised Beef Suppositories.

Contain about 50 grains of the last preparation in each, with addition of isinglass. As much as 2 ounces of proteid can be administered daily by this means.—B.M.J. i./81,271; B.M.J. i./82,421,459.

Peptonised Bismuth.—See p. 97.

Peptonised Iron.—See p. 187.

Pepsin Tablets.

Dose.—1 or 2 with meals.

These have 3 grains of pepsin in each in combination with chocolate, they are portable and palatable.

Vinum Pepsinæ (Morson's).

Dose.—1 to 2 drachms, with meals.

A solution of the gastric ferments in light Spanish wine.

PHOSPHORUS.

Phosphorus (*Off.*).

Dose.—$\frac{1}{200}$ to $\frac{1}{30}$ grain, carefully increased.

This transparent, colourless metalloid, brittle at low, soft and flexible at common, temperatures, melts at 110°, ignites in the air at a slightly greater heat, and forms dense white fumes of phosphoric anhydride. At low temperatures it emits white vapours of phosphorous anhydride. It is insoluble in water, soluble 1 in 320 of absolute alcohol, about 1 in 150 (=1 in 205 by measure) of absolute ether, 1 in 100 of chloroform, 1 in 100 of Dutch liquid (this takes up much more if warmed), about 1 in 100 respectively of almond, olive, castor, and theobroma oils, suet, and most fixed oils and fats; soluble in melted resins (? not unchanged in some); freely soluble in bisulphide of carbon; soluble also in, or rather combines chemically with, oils of turpentine and peppermint, forming non-luminous and comparatively non-poisonous liquids. These, as well as other essential oils, are incompatible with Phosphorus. French Oil of Turpentine is considered its best antidote—30 minims every half-hour.

Uncombined Phosphorus is a violent poison, and is a much more energetic medicine than an equivalent quantity of any of its chemical compounds. To obtain its full medicinal and certain action, and ensure its complete absorption, it should be administered in solution—either in oil or fat is most reliable. But its solutions, if liquid, are unpleasant to take and cause disagreeable eructations. Many are unstable, as on exposure to the air they rapidly oxidise and form almost inert compounds. It is a difficult pharmaceutical problem to present it in an active and palatable condition. The French perles or globules of phosphorated oil are stable and active, only the dose contained in them is overstated. Solutions of Phosphorus in oil of theobroma or suet make active pills, if these are coated with sandarach solution, and not kept too long. But the tendency now is to prescribe all the tonics of the pharmacopœia in conjunction with it and expect them to combine and form one small stable and active pill. All the preparations of Phosphorus require skill and care, else much of the Phosphorus is spent or oxidised during manipulation. In making it into pills, this may be partially checked by dropping a minim or two of chloroform into the mortar, the vapour of which checks the luminosity of Phosphorus.

Phosphorus is a nervine tonic and stimulant—given for nervous prostration, paralysis agitans, locomotor ataxy and impotence. It is most useful in neuralgia—

especially in aged persons, in leucocythæmia, and in some skin diseases. In psoriasis, chronic eczema, and lichen, it acts somewhat like its chemical ally, arsenic.

Amorphous or **Red Phosphorus.**

Dose.—(?) 1 grain.

An allotropic condition of Phosphorus is obtained by a prolonged heating of it at a temperature of 464° F. without access of air. It is a red powder, insoluble in the simple solvents that dissolve ordinary Phosphorus. It might be administered in a pill, first triturated with sugar of milk and massed with glycerine of tragacanth, but it is unsafe, and not used medicinally. If perfectly free from white Phosphorus, which constitutes its danger, it appears to be physiologically and therapeutically inert. Half-drachm doses were taken 3 times a day for 40 days without apparent effect.—P.J. 1875,41.

Preparations.

N.B.—All preparations of Phosphorus required to be kept from the light and in a cool place.

Alcoholic Solutions of **Phosphorus** have been employed medicinally; but, as it requires 320 parts of cold and 180 of boiling absolute alcohol to dissolve it, and even in this quantity solution is difficult, and as on addition to water the Phosphorus is all precipitated, such solutions are unsatisfactory, uncertain, and give deceptive results.—Pr. xi.19; P.J. 1873,452.

Æther Phosphoratus, Teinture Ethérée de Phosphore (Codex, 1839).

Phosphorus in small pieces	4 parts.
Pure Ether, Sp. Gr. 720 (by weight)	200 parts.

Macerate with frequent shaking in a dark place for a month and decant. About one-third of the phosphorus only is dissolved, it contains 1 in 150 (or 205 by measure). *Dose.*—1 to 10 minims.

In neuralgia, 5-minim doses effected a cure, taken on the advent of an attack and repeated as required.—L. ii./72,690.

In neuralgia, 1 minim doses useful.—B.M.J. ii./78,975; B.M.J. i./79,176.

Elixir Phosphori.

Compound Tincture of Phosphorus (see p. 272) ...	1 drachm.
Add to	
Glycerine	4 drachms.

And shake well.

Dose.—15 minims to 1 drachm in water. Contains $\frac{1}{50}$ grain in one drachm. As a fluid form of Phosphorus this is stable, palatable, and is well borne by the stomach.

Oleum Phosphoratum (*Off.*).

Dose.—1 to 10 minims, on sugar or in perles.

Contains about 1 per cent. of Phosphorus in prepared almond oil; it is saturated about as the corresponding preparation in the Paris Codex is, in which 1 in 50 is ordered, but only 1 per cent. is dissolved. It is phosphorescent in the dark. Diluted with twice its bulk of almond oil, so as to make it 1 in 300, it forms a liniment or eye-drops, which has been used in Paris for the cure of cataract without operation. 3 to 5 instillations are used per diem.

Perles of Phosphorated Oil.

These are imported from France of two strengths represented as equal to $\frac{1}{32}$ and $\frac{1}{64}$ grain in each, but the dose is over-stated, as the author, on exhausting with ether a number of those said to contain $\frac{1}{32}$ grain, found that, supposing the oil they contained to be saturated, each perle could only contain $\frac{1}{50}$ grain Phosphorus.

Phosphorated Cod Liver Oil.

Dose.—1 to 4 drachms.

Is prepared by adding 160 minims of Phosphorated Oil B.P. to a pint of cod liver oil. It contains $\frac{1}{100}$ grain in one drachm. It is a very unstable and unpalatable preparation.—P.J. 1877, 694,712,748.

Pilula Phosphori (*Off.*).

Dose.—3 to 6 grains.

This is a mixture of phosphorus 3, balsam of tolu 120, yellow wax 57, and curd soap 90, and contains phosphorus 1 in 90 of the mass.—P.J. 1874,902. The soap is added when dispensed; the other mixed ingredients are to be kept under water in a bottle. The writer has been in the habit of preparing phosphorus pills with the oil of theobroma solution of phosphorus devised by him, as follows:—P.J. 1870,414; L. ii./76,705; B.M.J. ii./76,641.

Pilula Phosphori (Martindale).

Dose.—1 to 3 grains.

Phosphorus	12 grains.
Oil of Theobroma ...	*q.s.*

Heat the oil to 300° F. and sustain the heat for 5 minutes. Strain and weigh 1200 grains into a wide-necked bottle with an indiarubber cork, and when cooled to 130° F. add the Phosphorus, cork and shake well till the fat begins to solidify. In rolling it into pills, divide into suitable lots, and beat each in a mortar to render it plastic before applying it to the machine, then work off quickly and cover with sandarach solution. The mass contains 1 per cent. of Phosphorus in perfect solution. It should be kept from the light.

When Phosphorus is to be combined with other ingredients in a pill, a more concentrated fatty basis is to be preferred. The following will contain about 10 per cent. of Phosphorus:—

Phosphorated Suet, 10 per cent.

Phosphorus	10 grains.
Bisulphide of Carbon ...	50 minims.
Dissolve and add	
Prepared Suet	90 grains.

Add a little of the suet at first, mix quickly, add the remainder, mix thoroughly and allow the bisulphide to evaporate. This basis may be used to make the following pills, the formulæ of which are much advertised.

Dose of each, one directly after meals.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Ferro** (3 grs.).

Phosphorated Suet... ...	10 grains.
Reduced Iron	150 grains.
Compound Tragacanth Powder	10 grains.
Chloroform...	15 minims.
Mix, and add quickly	
Mucilage of Acacia	*q.s.*

Mix, and divide into 50 pills. Cover with sandarach solution. The chloroform prevents phosphorescence and oxidation.

Pilula Phosphori ($\frac{1}{50}$ gr.) cum Ferro (3 grs.) et Nuce Vomicâ ($\frac{1}{3}$ gr.).

Make as last, adding $\frac{1}{3}$ grain Extract of Nux Vomica to each.

Pilula Phosphori ($\frac{1}{50}$ gr.) cum Quininâ (1 gr.).

Phosphorated Suet... ...	10 grains.
Quinine, pure (= 50 grs. Sulphate)	38 grains.
Chloroform...	20 minims.

Mix quickly, and add

Compound Tragacanth Powder	10 grains.
Mucilage of Acacia... ...	*q.s.*

Mix, and divide into 50 pills. Cover with sandarach solution.

Pilula Phosphori ($\frac{1}{50}$ gr.) cum Quininâ ($\frac{1}{2}$ gr.) et Ferro (3 gr.).

Make as last, using half the quantity of quinine there ordered, and adding 3 grains Reduced Iron to each pill.

Pilula Phosphori ($\frac{1}{50}$ gr.) cum Quininâ ($\frac{1}{2}$ gr.), Ferro (3 grs.), et Strychninâ ($\frac{1}{40}$ gr.).

Prepare as the former pills, adding the proportionate quantity of strychnine.

Tinctura Phosphori Composita.

Dose.—3 to 12 drops on sugar.

Phosphorus...	3 grains.
Chloroform...	5 drachms.

Warm gently in a stoppered bottle till dissolved, and add the solution to

Absolute Alcohol	25 drachms.

Shake well and keep in the dark. Contains 1 in 600.

Zinci Phosphidum, Phosphide of Zinc.

Dose.—$\frac{1}{20}$ to $\frac{1}{3}$ grain.

A steel grey crystalline powder, of which about one-fourth of its weight is Phosphorus, but it has only about one-eighth the medicinal activity of the latter. It has been used in medicine as a form of administering Phosphorus. It is stable, not oxidised by trituration, and can readily be formed into pills by levigation with sugar of milk and glycerine of tragacanth.

Pilula Zinci Phosphidi.

One-sixth of a grain in each, prepared as above.

References to Phosphorus.

Relieves epileptiform vertigo, nervous break-down, anæmia, and neuralgia.—Pr. x.230.

For neuralgia, tic douloureux and hemicrania, frequent doses of $\frac{1}{20}$ to $\frac{1}{30}$ grain useful.—M.T.G. i./73,412.

Use in angina, essential or pernicious anæmia, and leucocythæmia.—Pr. xix.16.

Psoriasis, rapid cure by.—L. ii./76,877.

Use in leucocythæmia, debates and notes on.—L. ii./76,786,799,858,868.

Letters on pharmaceutical preparations of, recommending pills with oil of theobroma.—L. ii./76,705; B.M.J. ii./76,641; B.M.J. i./79,103,257,378,614.

Poisoning by phosphorus rat poison with recovery, treated with milk, solution of morphine and opium, and an enema of castor oil and opium.—L. i./80,644.

Phosphorus useful as a preventive of congenital malformation.—B.M.J. ii./80,802.

Two cases of lymphadenoma, showing the hæmatinic influence of Phosphorus. In one, during 5 months' treatment, the red-blood corpuscles increased from 52 to 76 per cent.; in the other, from 62 to 80 per cent. in 31 days.—Pr. xxi.1.

In toxic doses given to fowls, Phosphorus causes an extreme diminution of the red-blood corpuscles, which in one case fell to one-sixth of the original number, with a great decrease of metabolism.—L. i./81,887.

Tubercular meningitis, valuable in the treatment of. —Pr. xxxiii.438.

The **Hypophosphites** of **Ammonium, Calcium, Iron, Potassium,** and **Sodium,** being salts which have their Phosphorus in weak chemical combination, are considered as possessing somewhat similar therapeutic properties to Phosphorus. They, like Phosphorus itself, can all be readily ignited when brought in contact with a naked flame. These salts have been much used as nervine tonics, and are specially serviceable in the incipient stages of phthisis, where there is little tendency to hæmorrhage, —the lime-salt is particularly useful in checking night-sweats. They are also valuable in the treatment of acne.

Ammonii Hypophosphis.

Dose.—1 to 6 grains.

In white deliquescent tabular crystals, soluble 1 in 2 of water. It has a nauseous saline taste.

Calcii Hypophosphis (*Off.*).

Dose.—1 to 6 (or 10, B.P.) grains.

A white crystalline salt, with a pearly lustre and a bitter, nauseous taste, soluble 1 in 7 of water. It is prepared by heating phosphorus with milk of lime until phosphoretted hydrogen ceases to be given off, then filtering and evaporating to crystallize. The other salts are generally prepared from this by the double decomposition of the carbonates or sulphates of their bases.

Ferri Hypophosphis.

Syn.—FERROUS HYPOPHOSPHITE.

Dose.—1 to 5 grains in a pill with syrup.

In commerce is a light brown amorphous powder with a chalybeate taste, soluble almost entirely 1 in 8 of water.

Liquor Ferri Hypophosphitis Compositus.

Ferrous Hypophosphite	2·77
Calcium Hypophosphite	3·5
Sodium Hypophosphite	3·5
Magnesium Hypophosphite ...	1·99
Hypophosphorous Acid	1·66
Distilled Water	86·58
	100

Dose.—One drachm for children of 10 years.

Is best prepared by decomposing the sulphates of iron, sodium, and magnesium, with an excess of hypophosphite of calcium, adding the requisite quantity of the latter and the acid afterwards as described in P.J. 1882,603.

Forms a much more useful "chemical food" for children than Parrish's preparation. Best administered in raisin wine, or for adults in Carlowitz.—B.M.J. i./80,472.

Syrupus Ferri Hypophosphitis.

Hypophosphite of Lime	75 grains.
Water	1 ounce.
Hypophosphorous Acid, Sp. Gr. 1·136	4 drs.

Heat, dissolve and add

Granulated Sulphate of Iron ...	120 grains.

Filter and wash precipitate with distilled water *q.s.* to produce 2 ounces of filtrate; this add to

Syrup	14 ounces.

Dose.—1 drachm, contains a grain of ferrous hypophosphite.

Pilula Ferri Hypophosphitis cum Strychninâ.

Strychnia, $\frac{1}{30}$ grain. Hypophosphite of Iron, 2 grains.
Syrup ... ... *q.s.*
To make a pill. *Dose.*—1 twice or thrice daily.

Manganesii Hypophosphis.—See p. 232.

Potassii Hypophosphis.

Dose.—1 to 6 grains.

A deliquescent granular white powder, having a nauseous, bitter taste. Soluble 1 in 1 of water.

Sodii Hypophosphis (*Off.*).

Dose.—1 to 6 (or 10 B.P.) grains.

A white granular deliquescent salt, with a bitter, nauseous taste. Soluble 1 in less than 2 of water.

Syrups are prepared respectively of the Hypophosphites* of Calcium, Iron, and Sodium, which, although varying in strength as prepared by different makers, generally contain one grain of the salt in a drachm of the syrup, the doses of which are 1 to 2 drachms. Various compound syrups, liquors, and wines of the hypophosphites besides are prescribed, of which Liquor Ferri Hypophosphitis Compositus is most in use. See p. 207.—B.M.J. i./80,472; P.J. 1882,603.

In phthisis and like cases, hypophosphites raise the nervous power and improve the condition of the secretions.—L. i./61,518.

Phthisis, 12 cases treated with hypophosphites; result apparently nil.—L. i./63,463.

They act as respiratory excitants, expand the chest, increase animal heat and nervous force, remove erratic pains, increase appetite and check night-sweats.—M.T.G.i./71,162.

Phthisis, 57 out of 100 cases improved under their use. Considered the best general tonics in incipient consumption and in the more advanced stages when the progress of the disease has been arrested.—L. ii./79,311, 344. Further remarks.—B.M.J. ii./82,11.

***Syr. Hypophos. Comp.**

The following formula has been published, based on an analysis, the product much resembles the advertised preparation:—Pyrophosphate of Iron (Sodio-citro-ferric Pyrophosphate), 15 grains; Hypophosphite of Sodium, 45 grains; Strychnine (dissolved with a drop or two of diluted Sulphuric Acid), ½ grain; Hypophosphite of Manganese, 15 grains; Sulphate of Quinine, 5 grains; Distilled water, 1 ounce. Heat gently to dissolve, without further addition of acid, and add to Syrup *q.s.* to weigh 16 ounces. *Dose.*—One teaspoonful.

In infantile diseases the use of the mixed hypophosphite salts is recommended.—B.M.J. i./80,472.

Wheat - Phosphates, Saccharated, the soluble part of bran—the organic phosphates and cerealin (ferment of bran) combined with sugar of milk—is specially useful in weakly and rickety children, and where digestion is impaired it seems to aid the assimilation of food and even of such medicines as iron.

Dose.—Half a teaspoonful (increased) 2 or 3 times a day, may be taken as sugar with food.

PHYSOSTIGMA.

Calabar Bean (*Off.*).

Dose, in powder.—1 to 4 grains.

The poisonous properties of this drug, chiefly due to Eserine (*q.v.*), are said to be contained principally in the integument of the bean of *Physostigma venenosum.*

Preparations of Physostigma and its alkaloid Eserine, applied topically to the eyes, contract the pupil, and are antagonistic to atropine.

For tetanus the dose of extract given by mouth, rectum, or hypodermically, should be repeated, and increased every hour, so as to produce paralysis little short of arresting the breathing. For chorea also it is given in smaller doses. In paralysis it arrests muscular wasting and improves muscular power. In hemiplegia or paraplegia, give doses of $\frac{1}{30}$ to $\frac{1}{10}$ grain frequently.—R

Extractum Physostigmatis (*Off.*).

Dose.—$\frac{1}{16}$ to $\frac{1}{4}$ grain, in a pill with sugar of milk; in cases of tetanus may be given every hour and increased.

This extract, if carefully prepared with alcohol of full strength, is dark brown, soft, and viscid, not miscible with water nor glycerine, but may be emulsified with gum and spirit, as in the following formula.

Injectio Physostigmatis Hypodermica.

Extract of Calabar Bean ...	10 grains.
Rectified Spirit	10 minims.
Rub together till smooth, and add	
Gum Acacia	10 grains.
Mix, and add gradually	
Distilled Water to	½ ounce.

Dose.—3 to 12 minims.

Traumatic tetanus, cases of, treated with Calabar bean. $\frac{1}{8}$ grain of the extract every hour, then $\frac{1}{6}$ grain every 2 hours, was successful.—L. i./68,434,463.

Antagonistic to strychnia, *not* to be depended on as a remedy for poisoning by.—B.M.J. ii./74,805.

Physostigmina. Physostigmine (*Off.*).

Syn.—Eserine.

The alkaloid is in large colourless rectangular crystals, slightly soluble in water, soluble 1 in 180 of vaseline.

Lamellæ Physostigminæ, Discs of Physostigmine. (*Off.*).

Each contain $\frac{1}{200}$ grain of Physostigmine.

Physostigminæ Hydrobromas, Physostigmine Hydrobromate.

Dose.—$\frac{1}{60}$ to $\frac{1}{20}$ grain, may be increased to $\frac{1}{12}$ grain.

A whitish amorphous powder, as met with in commerce, slightly hygroscopic, very soluble in water.

Physostigminæ Salicylas, Physostigmine Salicylate.

Syn.—Physostigminum Salicylicum, P.G. Physostigminæ Salicylas, U.S.

Dose.—$\frac{1}{60}$ to $\frac{1}{20}$ grain, may be increased to $\frac{1}{12}$ grain.

In colourless, shining, needle-shaped, or short columnar crystals. A stable salt, soluble 1 in 140 of cold water, forming a colourless solution, which becomes red in a few days, but does not lose much in efficacy.

Injectio Physostigminæ Salicylatis Hypodermica.

One grain in distilled water *q.s.* to 160 minims.

Dose.—1 to 6 minims. May also be used as eye drops in preference to the solution of the sulphate.

Physostigminæ Sulphas, Physostigmine Sulphate.

Dose.—$\frac{1}{60}$ to $\frac{1}{20}$ grain, increased to $\frac{1}{12}$ grain.

A light brownish amorphous powder, very hygroscopic and soluble in water.

Guttæ Eseriæ, R.O.H.

Sulphate of Physostigmine...	2 grains.
Distilled Water	1 ounce.

Dissolve.

References.

For chorea $\frac{1}{32}$ to $\frac{1}{12}$ grain or more of sulphate hypodermically; also in tetanus.—L. ii./75,187.

For corneal ulcers in scrofula, solution of 2 grains to an ounce dropped into the eye; also in mydriasis and glaucoma.—Pr. xxi.294.

Presbyopia, useful for, $\frac{1}{500}$ to $\frac{1}{200}$ grain in solution dropped into the eye at a time.—M.T.G. i./76,174.

Use of salts as myotics.—B.M.J. ii./79,363.

Acute glaucoma, cases of, cured by 2 or 3 eserine discs applied daily.—B.M.J. ii./81,921.

Use of in glaucoma and ocular neuralgia.—B.M.J. i./82,811.

Use of as a preliminary to extraction in cases of cataract. —B.M.J. ii./82,1293.

Painful corneal ulcers successfully treated with Eserine drops and warmth.—B.M.J. ii./83,864.

In glaucoma Eserine is indicated, in iritis Atropine.—Pr. xxxi.321.

Eserine may also cause glaucoma.—L. i./84,99.

Traumatic tetanus, a case recovered under doses of $\frac{1}{6}$ grain of sulphate of Physostigmine every two hours. —Pr. xxxiii.255.

Eye diseases; a summary of those in which Physostigmine will do good.—Pr. xxxiv.104.

PHYTOLACCIN.

Dose.—1 to 5 grains, in a pill with glycerine of tragacanth.

The powdered extractive, of a pale brown colour, obtained from poke root, *Phytolacca decandra.* Is nauseant and emetic, cathartic and alterative, used in syphilitic and rheumatic affections.

As a hepatic stimulant on the dog has considerable power; it also slightly stimulates the intestinal glands.—B.M.J. ii./78,912; Pr. xxiii.410.

PICROTOXINUM.

Picrotoxin, U.S.

Dose.—$\frac{1}{120}$ to $\frac{1}{20}$ grain.

A neutral crystalline principle obtained from the seeds of *Menispermum Cocculus*—cocculus indicus, in white needles or in laminæ, does not form salts. Soluble, 1 in 240 of water at 60°, freely soluble in glacial acetic acid, alcohol, and caustic alkaline solutions. It requires about 500 parts of olive oil or lard to dissolve it, and 60 parts of glycerine even if heated to 212° F., most of it also crystallizes out on cooling. Taste bitter. It has been used with good results in checking night-sweats, also employed in epilepsy and chronic alcoholism; overdoses cause stupor, delirium, and convulsions. Other principles, Menispermic Acid, Anamirtin, and Cocculin, are stated to be contained in cocculus indicus, and also that Picrotoxin can be split up into two separate principles Picrotoxinin and Picrotin.

Liquor Picrotoxini Aceticus.

Picrotoxin	8 grains.
Glacial Acetic Acid ...	4 drachms.

Dissolve and add

Distilled Water to	4 ounces.

Filter.

Dose.—2 to 12 minims in water.

Is palatable and keeps in solution at all temperatures. —Pr. xxv.93; B.M.J. i./80,351. For hypodermic injection a simple aqueous solution of Picrotoxin 1 in 240 is best used, but it is difficult to dissolve and apt to crystallize out.

Pigmentum Picrotoxini.

Picrotoxin	8 grains.
Glacial Acetic Acid ...	4 drachms.

Dissolve and add

Castor Oil	4 drachms.
Oil of Eucalyptus	16 minims.

Has been recommended for ringworm of the scalp, but is not so efficacious as Coster's paste and other remedies; the Pigment will bear dilution with castor oil for parasitic skin diseases, destroying pediculi, &c.

Pilula Picrotoxini.

Picrotoxin $\frac{1}{60}$ grain triturated with sugar of milk and glycerine of tragacanth *q.s.*, to make one pill. Forms a suitable dose for checking night-sweating of phthisis taken for 2 or 3 nights successively, it is slightly cumulative, and may be discontinued and yet its effects last.

References.

Physiological effects.—Edin. Jour. Med. 1861,306.

Epilepsy, useful for, especially when combined with anæmia and when the attacks occur at night.—St. Louis Clin. Rec. Oct. 1876.

Epilepsy and pharyngeal paralysis, good effects of $\frac{1}{25}$ grain by hypodermic injection.—Pr. xvii.369.

Night-sweating of phthisis, 2 to 4 minims of the acetic solution or $\frac{1}{120}$ to $\frac{1}{60}$ grain in pill was very efficient; does not, like atropine or belladonna, produce dryness of the throat, or any unplessant effect.—Pr. xxiii.241.

Antagonism between Picrotoxin and chloral-hydrate; $\frac{1}{20}$ grain sufficient for 30 grains of chloral.—B M.J. i./75,506,541; L.H. 238.

Periodical sick-headaches $\frac{1}{60}$ to $\frac{1}{20}$ grain by hypodermic injection, or $\frac{1}{30}$ to $\frac{1}{15}$ grain by mouth, and an ointment 10 grains to an ounce, is used for parasitic skin affections.—B.

Used in epilepsy, not successful.—L. i./80,553.

Therapeutic uses, in checking night-sweats, &c.—B.M.J. i./80,96.

Letter on its pharmaceutical preparations.—B.M.J. i./80,351.

Pilocarpine.—See p. 222.

PILULÆ.

Pills.

Medicines prepared in a pilular form are very portable, as they can be supplied to the patient in the smallest possible bulk in equally apportioned doses. The pill is a convenient mode of administering nauseous medicines, those that are insoluble in water and not easily suspended in it, and those drugs whose gradual action is required. A pill should be perfectly globular and firm so as not to lose its shape, yet should not be too hard so as to be insoluble, or even slow in dissolving, unless the prescriber wishes it, as is sometimes the case; *e.g.*, 5 grains of dried sulphate of iron with one minim of syrup form a not very large but useful pill, which, by dissolving slowly, does not derange the stomach, whereas an equivalent dose of the salt in solution would, in many cases, act as an emetic. Again, dinner pills of aloes and mastic are prescribed to be made up with spirit by some physicians, who intend them to dissolve, not in the stomach, but in the bowels principally, where their peristaltic action is required. It is the duty of the dispenser not to deviate from using the excipient ordered, unless, for example, a fluid excipient is ordered along with extracts whose normal condition is too soft to begin with.

If the choice of the excipient be left to the dispenser, as is often the case, he should choose one which will not be incompatible with, but, if possible, have a preservative action on the other ingredients of the pill, neither inconveniently increase its size nor interfere with the quick or prolonged action intended by the prescriber.

The Pill Mass, in the first place, should be firm and solid, yet possess tenacity and be plastic when worked. As in building a wall bricks and mortar are required in due proportion, so a good pill mass requires particles void of fluidity, with adhesive, semifluid substance to bind them together. Where there is but little fibrous or insoluble solid particles prescribed, the mass should be made as hard as possible and quickly rolled out, else the pills will not keep their shape. Most vegetable powders contain fibrous matter and have their adhesive properties while dry in a latent condition, these merely require a suitable fluid added to develope their tenacity and enable them to be rolled into pills. As a powerful solvent and preservative, glycerine, diluted with one-half its volume of rectified spirit, used discreetly, is a good excipient for such powders. If used in the pure state in the slightest excess, glycerine, being slightly hygroscopic, causes the pills in time to have an unsightly, moist appearance, whereas, if diluted with spirit, the spirit readily evaporates from them. Glycerine in any form should not be used as an excipient for hygroscopic drugs, such as soft extracts, squills, aloes, &c. For these mucilage of acacia or syrup is preferred. For insoluble metallic salts, glycerine requires additional adhesiveness, for such and a number of other drugs it is best used in the form of glycerine of tragacanth (see p. 330), adding, if necessary, a small quantity of powdered acacia or althæa to give firmness to the pill. The use of glycerine should be avoided in pills intended to be varnished; in place of glycerine of tragacanth, use for these a little of equal parts acacia and tragacanth, with syrup *q.s.*

Powders to be formed into pills should be as finely comminuted as possible; any poisonous alkaloid or very active drug should be well triturated with some less active powder, or, if the formula contains no other powder, with a little sugar of milk, before mixing with the other ingredients. Having mixed the powders and diffused any essential oil evenly through them, the extracts and other excipients should be added, the whole well pounded into a mass, rolled into pills, and dusted over with lycopodium, powdered starch, or French chalk, in the usual manner.

But the public now require pills to be made as tasteless and as small as possible. A one-grain pill is much preferred to a 5-grain one; yet, unless specially ordered otherwise, when the ingredients prescribed for each pill weigh less than one grain, it is a rule with dispensers, for uniformity's sake, to triturate the ingredients with sugar of milk and glycerine of tragacanth *q.s.* to make each pill weigh one grain. These excipients, glycerine of tragacanth and sugar of milk, generally are as neutral as any that can be chosen. Pills made with them will remain plastic and active any length of time.

As a means of rendering pills tasteless, silvering or gilding are giving place to covering them with solution of sandarach, gelatine, or pearl-coating them with French chalk and gum, or sugar-coating them.

Varnishing Pills—The writer's plan of, using a sandarach solution — 1 part sandarach in 1 part of absolute alcohol (= Pill Varnish: Pharm. Jour. 1870,414) may be done extemporaneously. The pills should be perfectly made—well mixed, and free from contamination and powder, as every imperfection will show through the transparent coating. Having placed them in a covered pot, a few drops of the sandarach solution are poured in and diffused equally over the pills by a few circular movements of the pot held in one hand. They are then poured out on a clean plate and detached from each other. After 4 minutes each one is moved, and in 10 minutes all are moved and again shaken. In about 20 minutes they will be quite dry, but are better allowed to be exposed to the air an hour or so more.

In **coating** Pills with **Gelatine**, they should be free from powder, and not too dry. A solution is prepared by dissolving 1 part of gelatine in 4 parts of water, straining whilst hot through fine muslin, allowing to cool and re-heating to get rid of air bubbles. The pills are stuck on the points of fine needles and dipped into the solution, kept hot by a water bath; as they are taken out, each needle is slowly revolved to make the coating even on the pill, the reverse end of the needle is then stuck into a sheet of cork or pincushion, and the needles are left in this upright position till the pills are dry, which is usually in about half an hour.

In **pearl-coating** Pills they should be made firm and free from powder; they are first evenly covered with a mucilage of tragacanth 4 grains to 1 ounce, and half a drachm of syrup added; this is done by shaking them in a covered pot with a few drops of the mucilage, they are then thrown into another covered pot having a concave bottom and containing some finely powdered French chalk; after gently rotating them in this for a few seconds they are turned into a third clean and similar pot and rotated slowly; the excess of powder is then blown off, the lid placed on the pot, and they are finished by shaking them quickly and regularly round until they become even and polished.

The **sugar-coating** of Pills is a confectioner's art. It can only be done successfully in large quantities, and the pills must be hard and dry; they are placed in a hemispherical metallic pan kept warm, while making eccentric revolutions, and are alternately moistened with syrup, and dusted with finely-powdered sugar, till dry and uniformly covered.

The **keratine-coating** of Pills is performed for the purpose of rendering them insoluble in the gastric juice, so that they pass into the intestine unchanged. Their action is thus localised. For this purpose, only oily excipients should be used, and the pills should be covered with a thin layer of cacao-butter previous to applying the

Keratine Solution.

This is made by removing from horn shavings all that is soluble in pepsin and diluted hydrochloric acid. The residue is dissolved in solution of ammonia, and evaporated until only a trace of ammonia is left,—this forms the gum-like liquid, keratine solution. The pills require three coatings with this liquid, and so prepared they are freely soluble in the alkaline liquid in the intestine; and, although insoluble in the acid gastric juice, their coating is partially soluble in acetic and citric acids, which should therefore not be taken at the same time.—P.J. 1884,422.

In all pharmacies it is found convenient to keep a number of pills besides those of B.P. ready prepared. A list of those in general request in London is contained in the index.

PINUS SYLVESTRIS.

Scotch Pine.

Syn.—Scotch Fir.

From the wood of this much of the European oleo-resin common turpentine, oil of turpentine, and tar is produced. From its leaves also are prepared an extract, volatile oil and wool, at certain establishments in Germany, where a system of treatment of rheumatism and other diseases by baths, &c., known as the Pine Cure, is followed.

Fir Wool, or Fir Wool Wadding, is sold as a brownish yellow fibre, in sheets like cotton wool; it has the faint, agreeable odour of the Pine-leaf, and is manufactured into blankets, jackets, spencers, stockings, &c. A Liquor is obtained, which is employed for baths. On evaporation this yields

Extractum Pini Sylvestris. Fir-Wool Extract.

A dark brown liquid of the consistence of treacle, readily soluble in water and having a faint pine odour; 2 to 4 ounces are added to a 30 gallon warm-bath for rheumatism.

Oleum Pini Sylvestris. Fir-Wool Oil (*Off.*).

In the preparation of the wool this is obtained by distillation from the pine-leaf. It is colourless, and has the agreeable odour of the fresh pine-leaf. It has Sp. gr. 0·868. For rheumatism it is applied by rubbing, and the affected part is afterwards covered with warmed Fir-wool wadding; it is also added in quantities of a drachm or more to warm baths for the same disease.*

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* "**Sanitas" Disinfectants** prepared from oil of turpentine, including:—

"**Sanitas" Fluid,** the aqueous solution resulting from the action of water upon air-oxidised turpentine, containing as its active principles peroxide of hydrogen, thymol, a soluble camphor, and some camphoric acid. It is an oxidising agent and an antiseptic, is non-poisonous, does not stain linen, is useful for household disinfection and for surgical operations. Two fluids Nos. 1 and 2 are sold, No. 1 is more concentrated than No. 2. **Toilet "Sanitas"** is similar, with an agreeable perfume. "**Sanitas" Oil** is an air-oxidised turpentine, the oxidation being conducted in the presence of water; it has Sp. gr. 0·95. An organic peroxide is present in it, which gives it an oxidising strength equal to that of a ten-volume solution of peroxide of hydrogen. As an antiseptic it may be mixed with

Vapor Olei Pini Sylvestris (*Off.* and **T.H.**)

Fir-Wool Oil	40 minims.
Light Carbonate of Magnesia	20 grains.
Water, to	1 ounce.

One drachm to a pint of water at 140° F. forms a mild stimulant inhalation in chronic laryngitis.

PIPERINA.

Piperine, U.S.

Dose.—1 to 10 grains.

A crystalline base obtained from black and long pepper, the fruits of *Piper nigrum* and *Piper longum*, in large colourless prisms, which turn yellow with keeping. Insoluble in water, soluble in alcohol, and less soluble in ether. Almost tasteless, but its spirituous solution has a peppery taste. The pungency of pepper is not due to Piperine. It has been used in conjunction with eucalyptol for neuroses and congestion of the spleen.

Febrifuge action is energetic, it neither changes, retards, nor suppresses any secretion or excretion.—M.T.G. ii/60,18.

PISCIDIA.

Jamaica Dogwood.

The bark of the root of this tree, *Piscidia erythrina* is employed in the West Indies to intoxicate fish. In America it is employed to relieve toothache, and as a general sedative; it is said to be specially useful in allaying the cough of bronchitis and phthisis; does not interfere with expectoration, or lower the vital force. —P.J. 1844,76,111. It is said to be an effective anodyne substitute for opium, to allay pain, spasm, and nervous excitement, and produce tranquil sleep.

Extractum Piscidiæ Erythrinæ Fluidum.

Dose.—20 minims to 2 drachms.

One drachm equals 1 drachm of the bark. Is a good narcotic, does not cause headache nor constipation.—B.M.J. ii./83,903.

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sawdust and sprinkled about, or diluted with alcohol or methylated spirit and sprayed in a room, or diluted 1 to 7-20 of olive oil for various surgical dressings and affections of the skin. Mixed with powdered acacia, then boldly diluted with water and well shaken, it forms a "Sanitas" emulsion which can be diluted further *ad lib.* for various purposes.

PIX LIQUIDA.

Tar (*Off.*).

Dose.—2 to 10 grains in a pill with lycopodium, or in perles.

Since Bishop Berkeley wrote his "Siris" in praise of tar-water, to which the phrase, "cheer but not inebriate," was applied by him, and since Dickens's "Joe Gargery's wife" had such belief in its virtues, when given internally, Tar has comparatively fallen into disuse.

As a diuretic and in bronchial catarrh and winter cough, it is very useful.—B.M.J. ii./75,380,498.

On account of their antiseptic properties, both Wood and Coal Tar and preparations of them have been used for surgical dressings. The former yields Creosote, which is a much more powerful although a less manageable germicide than the carbolic acid or cresylic acid contained in the latter. During the late American war, oakum (old tarred rope carded) was much employed as an absorbent antiseptic wound-dressing; but generally its fibres are too coarse and harsh; yet, under the name of **Tenax,** a fine carded oakum is sold in 1-lb. packets.

Marine Lint, also in 1-lb. packets, is tow impregnated with fresh tar; is a cheap and useful antiseptic dressing.—B.M.J. i./80,476.

Aqua Picis. Tar Water; *Syn.*—Aqua Picea; Eau de Goudron (Codex 1884).

Tar	1.
Pine Sawdust	3.
Mix and add	
Distilled Water	200.

Macerate, with frequent shaking, for 24 hours, and filter.
Dose.—5 to 10 ounces.

Oleum Picis Rectificatum. Light Oil of Tar.

Two distilled oils of Wood Tar are met with in commerce, one light, known also as Rectified Spirit of Tar, having Sp. Gr. 0·853 to 0·867, is colourless when fresh, but becomes sherry-coloured with age; this is a most powerful deodoriser, and is used for making Coster's paste (p. 158). The other is an opaque black dense oil, heavier than water.

Perles of Tar.

Dose.—1 or 2. The Tar is enclosed in small globular capsules, containing about 2½ grains in each.

Pilula Picis-Liquidæ.

Tar...	2 grains.
Lycopodium	1 grain.

Make a Pill.

Dose.—1 or 2; useful for winter cough.—B.M.J. i./75,498.

Unguentum Picis Liquidæ. Tar Ointment (*Off.*).

Tar 5, Yellow Wax 2.

Useful in psoriasis.

For use in skin diseases four special kinds of Tar, imported from Germany, are met with. Unlike common Tar, they are perfectly liquid. They are also known as empyreumatic or pyroligneous oils, viz.:—

Oleum Betulæ Pyroligneum. Birch Tar.

Oleum Cadinum. *Syn.*—**Oleum Juniperi Pyroligneum. Juniper Tar. Huile de Cade.** Said to be obtained from *Juniperus Oxycedrus.*

Oleum Fagi Pyroligneum. Beech Tar. On the Continent used as a source for creosote.

Oleum Rusci Pyroligneum. Said to be obtained from **Butcher's Broom.** (This must be distinguished from the *Oleum Rusci*, almost colourless, prepared in Germany by digesting Butcher's Broom in olive oil.) Is really a Birch Tar, identical with the above.

These Tars have similar properties for forming ointments for skin diseases; their odour is less disagreeable, they are cleaner, and they are thought to be more efficacious than common Tar. The Birch Tar is esteemed on account of its peculiar odour well known in Russia leather. Oleum Cadinum (Huile de Cade) is the most used. They are all soluble in oils, fats, wax, unctuous petroleum, and chloroform, but do not perfectly blend with alcohol.

Unguentum Olei Cadini.

Yellow Wax	1 ounce.

Melt and add

Huile de Cade	1 ounce.

Heat gently and stir till cold. Used in psoriasis and dry eczema. Similar ointments may be made of the other Tars, the proportions may be varied and lard may be used as a diluent if a weak ointment be required.

Chronic eczema, 2 cases cured by an ointment of Oil of Cade 1, Vaseline 4.—B.M.J. ii./83,817.

PODOPHYLLIN.

Syn.—RESINA PODOPHYLLI (*Off.*).

Dose.—$\frac{1}{4}$ to 1 grain as a cholagogue and aperient. $\frac{1}{30}$ to $\frac{1}{15}$ frequently as an alterative.

The resin obtained from the dried rhizome of *Podophyllum peltatum*—American mandrake, or May apple, sometimes called vegetable mercury, as it is a powerful biliary purgative. It is a pale greenish-brown amorphous powder, with an herby odour and acrid taste, soluble in aqueous ammonia, almost entirely soluble in rectified spirit, leaving undissolved inorganic impurity, with, it is said, traces of hydrochlorate of berberine.

The crude resin may be divided by treatment with ether, which dissolves a portion and leaves another which is soluble in alcohol but not in ether. The former has a bright yellow colour, an herby odour, and acrid taste; the latter has a pale brown colour, is odourless, and has a less acrid taste than the other. The author found little difference in their purgative action. The brown resin was more prompt.—Pr. xxviii.54; P.J. 1877,456. The crude resin is a slow and rather uncertain purgative, requiring from 12 to 20 hours to act.

In a later research by Podwissotzki, he obtains from a chloroformic extract of the root an amorphous principle, which is free from the fatty and colouring matters of the official resin. This he names **Podophyllotoxin**; it is more certain in its action than Podophyllin and is given in dose of $\frac{1}{10}$ to $\frac{1}{5}$ grain, to children $\frac{1}{60}$ to $\frac{1}{30}$ grain. It is best administered by dissolving 1 grain in 2 drachms of rectified spirit. Dose, 2 to 10 drops in a teaspoonful of syrup. P.J. 1882, 623,1011; L. ii./81,568; M.R. 1883,14. **Podophyllotoxin** is in its turn capable of being separable into a bitter crystalline acid (Picropodophyllic Acid), a bitter, crystalline neutral body (Picropodophyllin), the latter of which is the more medicinally active, and an amorphous substance (Podophyllic Acid) which is inert.

Pilula Podophyllin.

$\frac{1}{30}$, $\frac{1}{4}$ or $\frac{1}{2}$ grain of the resin in each, well triturated with sugar of milk and glycerine of tragacanth *q.s.*, to make one pill.

Pilula Podophyllin Composita, U.C.H.

Podophyllin	... ...	$\frac{1}{4}$ grain.
Barbadoes Aloes	... ...	1 grain.
Capsicum	... ...	$\frac{1}{2}$ grain.
Extract of Belladonna	...	$\frac{1}{4}$ grain.
Glycerine of Tragacanth	...	*q.s.*

To make one pill. One or two form a biliary aperient dose.

Pilula Podophyllin et Quininæ.

Sulphate of Quinine	...	1 grain.
Podophyllin	... ...	$\frac{1}{12}$ grain.
Sugar of Milk	... ...	$\frac{1}{12}$ grain.
Extract of Belladonna	...	$\frac{1}{6}$ grain.
Extract of Socotrine Aloes	...	1 grain.

To make one pill. In making these pills, let the podophyllin be well triturated with the sugar of milk and then with the quinine. They are useful "dinner pills."

Tinctura Podophyllin (Dobell).

Podophyllin	... ...	1 grain.
Essence of Ginger	... ...	1 drachm.
Rectified Spirit to	... ...	1 ounce.

Dose.—A teaspoonful in water at bedtime every, or every 2nd, 3rd, or 4th night, as required, better than in pill; this forms "one of the most satisfactory and reliable of our medicines."—B.M.J. i./79,892.

Tinctura Podophylli (*Off.*).

Podophyllin	... ...	1 grain.
Rectified Spirit	... ...	1 drachm.

Dissolve and filter. *Off. dose*—15 to 60 minims.

In dose of 2 to 4 drops in tea or coffee, taken night and morning, is useful in sick-headache and biliousness, where the bowels and liver are sluggish in worried and over-worked patients, and in chronic diarrhœa with cutting pains and high-coloured motions. Also relieves constipation with clay-coloured motions following diarrhœa of infants, 1 or 2 drops on sugar twice or three times a day.—R. Its taste is acrid and disagreeable.

Tinctura Podophyllin Ammoniata.

Podophyllin	... ...	1 grain.
Aromatic Spirit of Ammonia		1 drachm.

Dissolve.

Dose.—2 to 6 minims as an alterative, 10 to 20 minims as a purgative and cholagogue, taken in a wineglassful of water or milk. Good Podophyllin will dissolve perfectly in spirit of sal volatile. This tincture has an advantage over the other tinctures of Podophyllin of forming a solution from which, on addition to water, the resin does not separate. The sal volatile also acts as a corrective.

A powerful hepatic stimulant, and in large doses a violent purgative. It is a very powerful stimulant of the liver of the dog. During the increased secretion of bile, the percentage of the special bile solids is not diminished; if the dose be too large, the secretion of bile is not increased: it is a powerful intestinal irritant.—Pr. xxiii.335; B.M.J. Rep. 1878,4; B.M.J. i./79,177.

As a purgative for children, 1 grain recommended.—M.T.G. ii./61,520.

By causing vomiting and purgation, 1 grain cured a case of convulsions in a child 3 years old.—M.T.G. ii./61,626.

Résumé of its medical properties, as a purgative and cholagogue, used in syphilis, rheumatism, and scrofula.—M.T.G. ii./70,647.

POTASSII NITRAS.

Nitrate of Potassium (*Off.*).

Syn.—NITRE; NITRATE OF POTASH.

Dose.—5 to 30 grains.

Fumus Potassæ Nitratis (Nitrated Papers), T.H.P.; Charta Nitrata, P.G.

Nos. I. II. and III. are made by saturating white blotting-paper with solutions of Nitre, 30, 45, or 60 grains respectively in an ounce, and drying. No. III. is the strongest. Burnt to inhale the fumes for asthma.

Asthmatic Pastilles are prepared in cones containing a mixture of chlorate and nitrate of Potassium.

Ozone Papers are similar in composition.

In addition to the above, various powders and cigarettes are sold as nostrums, the fumes of which while burning are employed to relieve attacks of asthma, of which Nitre is a constant and Stramonium is generally an ingredient; Himrod's Cure, Bliss's Cure, and the Green Mountain Cure may be imitated by the following:—

Pulvis Lobeliæ Compositus.

Nitrate of Potassium ... 2 ounces.
Boiling Distilled Water ... 2 ounces.
Dissolve and add to
Lobelia, in powder.
Stramonium Leaves, in powder. } 2 ounces of each.
Black Tea, in powder.
Mix well and dry.

Arsenical Cigarettes are made of paper impregnated with arseniate of soda, so that each contains $\frac{3}{4}$ grain of the salt. The patient ought to inspire the fumes deeply three or four times.—L. ii./81,83.

Potassii Cyanidum.—See p. 20.

POTASSII PERMANGANAS.

Permanganate of Potassium (*Off.*).

Dose.—1 to 5 grains in well-diluted solution, or in pill.

The deoxidising and disinfecting properties of a solution of this salt are well known. The official solution contains 1 per cent. The **Saturated Solution** 1 in 20 is more convenient for use. It is deep purple, and, when much diluted, crimson. Diluted 500 times makes it suitable for a lotion or gargle, or for pouring down sinks, drains, &c. It has the advantage over other disinfectants in having this distinctive colour, so that it cannot be mistaken for any other medicine; it has no disagreeable odour, and besides being a deodoriser, it quickly disintegrates all fetid and decomposing organic substances and albuminoid bodies whether in a solid form or in solution, living or dead, with which it comes in contact. It destroys bacteria with great rapidity.—Jour. Chem. Soc. xxxix. 258; P.J. 1881,765.

In amenorrhœa, 1 or 2 grains, in a pill 3 or 4 times a day for a few days before the time of the expected period, will bring on the flow almost to a certainty.—L. i./83,7; L. i./85,59,70,189,322,647,925; B.M.J. i./85,778.

In gonorrhœa, solution of $\frac{1}{2}$ grain in 1 ounce recommended as an injection.—L. i./83,45,86.

For counteracting serpents' venom.—L. i./83,768, 967; L. ii./83,461; L. i./84,288.

Danger of ulceration being caused by permanganate tablets.—B.M.J. i./85,308,413,516,764,974.

Pilula Potassii Permanganatis.

Permanganate of Potassium...	1 grain, or more if ordered.
Kaolin Ointment (p. 226) ...	*q.s.*

To make a pill, care must be taken not to triturate Permanganate of Potassium with any easily oxidised substance, like sugar, syrup, or glycerine, else spontaneous combustion may occur. The pills may be coated with sandarach solution and rendered tasteless. A solution of Permanganate of Potassium is very nauseous.—L. i./83,81, 107; P.J. 1883,580,600,620.

Permanganate of Sodium, in solution, green in colour, is used as a cheap disinfectant, and **Permanganate of Zinc,** in deliquescent dark brown iridescent crystals, like the Potash salt, is used for lotions and injections, where the astringent action of the zinc is indicated. **Permanganate of Calcium** is preferred for making mouth lotions, as it has least taste.

Potassium Silicate, solution of.—See Sodium preparations, p. 314.

PRUNUS VIRGINIANA.

Wild Cherry Bark, U.S.

This bark contains amygdaline, and on distillation with water yields an essential oil which is rich in hydrocyanic acid; on simply moistening the bark with water, the odour of the latter is developed. It possesses as well bitter tonic properties, with more or less sedative ones. The preparations in use here—the tincture and syrup—form agreeably flavoured medicines, which are used to palliate the cough in phthisis and bronchitis, and in palpitation of the heart, and debility particularly of the digestive organs.—L. i./80,97.

Preparations.

Syrupus Pruni Virginianæ, U.S.

Wild Cherry Bark, in powder	12
Distilled Water	*q.s.* to moisten.

After 24 hours percolate until 35 of liquid are obtained; to this add

Sugar, in coarse powder ...	60

And dissolve without heat, and add

Glycerine	5

Dose.—1 drachm.

Tinctura Pruni Virginianæ.

Wild Cherry Bark, in powder	8 ounces.
Distilled Water	15 ounces.

Macerate 24 hours and add

Rectified Spirit	25 ounces.

Macerate 7 days more, express and filter, adding proof spirit *q.s.* to produce 2 pints.

Dose.—20 to 60 minims.

Prunin.

Syn.—CERASIN.

Dose.—1 to 5 grains.

Is prepared by evaporating the tincture and powdering the extract. It is pale brown in colour, and has a characteristic odour.

PULSATILLA.

Pulsatilla.

Pulsatilla nigricans or *Anemone pratensis* and *A. Pulsatilla* (these two plants are by some botanists considered varieties of one species) pasque flower, meadow anemone or wind flower.

The flowering herb imported principally from Germany.

Preparations.

Anemonin. Pulsatilla Camphor.

Dose.—$\frac{1}{60}$ to $\frac{1}{12}$ grain or more, well triturated with sugar of milk in a pill.

In neutral white volatile prismatic crystals, easily crumbled, sparingly soluble in water or ether, more soluble in alcohol and chloroform. Almost tasteless, but if heated is acrid and irritating. Obtained from *P. nigricans* and other species of anemone. It is poisonous

—5 to 10 grains caused death of rabbits. Has been given for dysmenorrhœa and epididymitis.—Pr. xxi.377.

Tinctura Pulsatillæ.

From fresh plant in an equivalent quantity to 1 of dried in 10 of proof spirit.

Dose.—1 to 5 minims, or more, for amenorrhœa or dysmenorrhœa, a minim every hour or two hours, a day or two before periods.

Pulsatilla paralyzes the medulla oblongata and spinal cord, and excites irritation of the digestive tract and the kidneys.—Clarus in Binz.

The tincture is praised as a remedy for spasmodic dysmenorrhœa and amenorrhœa.—Pr.xxi.377.

It is also used in catarrh of the air-passages with spasmodic cough, and some rheumatic affections. 1 to 10 of water is used as a lotion to the mucous membrane where there is a discharge of a muco-purulent character, especially useful in leucorrhœa.—Phillips, Mat. Med. and Ther.

Anemonin is the active principle of Pulsatilla. It lessens the number of respirations and cardiac contractions in frogs, cutaneous sensibility and excitability of the motor nerves is preserved, but muscular irritability is lowered. The heart beats after respiratory movements cease.—L. ii./82,116.

Use in eclampsia and sympathetic neuroses; and other therapeutic uses in dose of tincture of 5 to 30 minims. —Pr. xxix.32.

PYRIDINA.

Pyridine.

A base, forming salts with acids, obtained from bone-oil and many organic substances by dry distillation and subsequent purification. It is a colourless, strong-scented liquid; boils at 243° F.; is contained in and combined with nicotine in the fumes of tobacco, and M. Sée thinks it is probably the relieving agent of various cigarettes and powders smoked or burnt for asthma. It relieves dyspnœa of asthma. A drachm of it is placed on a plate in a small room, in which the patient remains from 20 to 30 minutes three times a day. The respiration becomes easy, and, after a few sittings, the disease disappears more or less completely. In frogs and guinea-pigs, the irritability of the respiratory centre is lessened.—M.R. 1885,344.

QUEBRACHO CORTEX.

White Quebracho Bark.

The bark of *Aspidosperma Quebracho*, imported from the Argentine Republic, is met with in pieces about $\frac{3}{4}$ inch thick, with a fibrous cinnamon brown-coloured interior, breaking with a short fracture, and having a warty, reddish ochre-coloured suberous exterior. It has a bitter, slightly aromatic taste. It contains the alkaloid Aspidospermine and other principles.—P.J. 1882,781.

Investigations by Hesse, Harnack, and Hoffmann have shown that Quebracho contains six alkaloids, and that commercial Aspidospermine is a mixture of these, viz.:—Aspidospermine, Quebrachine, Quebrachamine, Aspidospermatine, Hypoquebrachine, and Aspidosamine (amorphous). Of these the bark yields most Aspidospermine, and it is most used.

Aspidospermine Sulphate (Froude), in dose of $\frac{1}{64}$ to $\frac{1}{32}$ grain hypodermically appears to lower temperature in typhoid where quinine fails; salts of Aspidospermatine are found to be more, and those of hypoquebrachine and quebrachine less, powerful antipyretics.—L. ii./84,1018.

Crude Aspidospermine Sulphate is deliquescent and unstable; it is much more soluble in water than the alkaloid. Quebracho and its preparations have been employed as remedies in certain forms of asthma and to relieve the dyspnœa of this disease.—B.M.J. i./80,167; Pr. xxxiii.54.

Tinctura Quebracho.

Is prepared 1 in 5 of proof spirit.—P.J. 1879,485.
Dose.—$\frac{1}{2}$ to 1 drachm or more.

QUINETUM.

Dose.—1 to 5 grains or more.

The mixed alkaloids, in amorphous greyish white powder, obtained from red cinchona bark, *Cinchona succirubra*, slightly soluble in water, but readily and perfectly dissolves in it with the aid of a dilute acid. It consists principally of cinchonidine (50 to 70 per cent.) with some quinine, cinchonine, &c.; is much cheaper than quinine.

Quineti Sulphas, Quinetum Sulphate.

Dose.—1 to 5 grains or more.

The crystallizable sulphates of the above, in acicular crystals resembling quinine, slightly soluble in water, but readily dissolves with the aid of an acid. May be made into pills with glycerine of tragacanth, or given in aqueous solution with acid and tincture of orange-peel. It is not nauseously bitter.

References.

As a tonic, 1 to 3 grains; in ague 10 to 15 grains; no unpleasant effects during its administration.—M.T.G. ii./76,474.

In ague does not produce deafness; is even more powerful than quinine.—Pr. xx.83.

In ague 10 to 15 grain doses act as well as quinine, is half the price.—B.M.J. i./79,800; Pr. xxii.452.

QUINIDINÆ SULPHAS.

Quinidine Sulphate.

Syn.—Conquinine, or Conchinin Sulphate (Hesse).

Dose.—1 to 20 grains.

Quinidine is an alkaloid obtained from cinchona, principally from Pitayo and Cuprea barks. The sulphate is in white acicular crystals very like sulphate of quinine. Soluble in 350 of water, 1 in 32 of absolute alcohol, rendered more soluble in water by the addition of acid—a minim or more of diluted sulphuric acid to a grain—may be dispensed thus, or 5 parts of the sulphate with one of glycerine of tragacanth in pills. Its solution is fluorescent, but dextrogyrate, and, like quinine with which it is isomeric, its solution produces an emerald-green colour with chlorine water and ammonia. Quinidine salts are powerful antiperiodics, equal to those of quinine, to which they stand next in market value. Quinidine Sulphate is suitable for administration to children, being less bitter than the other cinchona alkaloids.

Reference.

In typhoid and ague, doses of 15 to 30 grains with dilute sulphuric acid and peppermint water was attended by good results.—B.M.J. i./79,937, *ex* Allgemeine Medicin. Central-Zeitung.

QUININA.

Quinine.

Dose.—1 to 4 grains or more (if anhydrous, 3 parts are equal to 4 of sulphate).

The most valued alkaloid obtained from cinchona barks,—is a very bitter, white, or, if well dried, greyish white amorphous powder, slightly soluble in water, soluble in ether, alcohol, chloroform, and dilute acids. Soluble also in aqueous ammonia. One grain dissolved in a drachm of aromatic spirit of ammonia forms an agreeable dose. Its solution in diluted sulphuric acid is fluorescent, levogyrate, and gives, with solution of chlorine and ammonia afterwards added, a characteristic emerald-green colour due to thalleioquin.

Preparations in use medically, with references.

Oleatum Quininæ.—See p. 249.

Oleum Morrhuæ cum Quininâ.—See p. 249.

Quininæ Arsenias, Arseniate of Quinine.

Dose.—⅛ to ½ grain, in a pill.

Is in small white acicular crystals, sparingly soluble in cold water. Medicinally, its arsenic is about one-tenth that of arsenious acid. It is an antiperiodic, given in chronic malarial fevers.

Quininæ Chloras, Quinine Chlorate.

Dose.—1 to 5 grains or more, in pill with glycerine of tragacanth.

In slender white needles, slightly soluble in water. It explodes when heated.

Quininæ Citras, Quinine Citrate.

Dose.—1 to 5 grains or more, in pill with glycerine of tragacanth, or slightly powdered and suspended in water, in which this salt is sparingly soluble—1 in 900—has, therefore, little taste in this form. It is in acicular crystals like the sulphate.

Ferri et Quininæ Citras (*Off.*).

Dose.—5 to 10 grains in aqueous solution, or in pills with Canada balsam, resin ointment, or mucilage of acacia (with the last excipient, unless made very hard, they lose shape). This much-used preparation contains 16 per cent. of quinine, is in greenish golden scales, slightly deliquescent and very soluble in water. It has an agreeable bitter, chalybeate taste.

Syrupus Ferri et Quininæ Citratis.

Dose.—1 drachm or more.

Is generally prepared by dissolving 3 grains Citrate of Iron and Quinine in a drachm of syrup of orange-peel.

Ferri, Quininæ et Strychninæ Citras (p. 317) is the former preparation, with 1 per cent. of strychnine added.

Quininæ Fluoridum.—See p. 48.

Quininæ Hydrobromas, Quinine Hydrobromate.

Dose.—1 to 5 grains or more.

In white acicular crystals smaller than the sulphate, and much more soluble in water (1 in 16). Quinine is given with an excess of hydrobromic acid to lessen the cinchonism sometimes caused by large doses.—B.M.J. ii./76,42. Use as an antipyretic.—Pr. xxi.443.

Quininæ Hydrobromas Acida, Quinine Acid Hydrobromate.

Dose.—½ to 2 grains hypodermically.

In yellowish large rectangular prisms or masses or crystals, or in powder. A very soluble salt of quinine, dissolves 1 in 6 of water, richer in the alkaloid than the sulphate, is therefore well adapted for hypodermic injection. It is entirely unirritating.—M.R. 1880,443.

Injectio Quininæ Hydrobromatis Acidæ Hypodermica.

Acid Hydrobromate of Quinine	1 grain.
Distilled Water to	6 minims.

Dissolve.

Dose.—3 to 12 minims. Useful in ague where quinine cannot be borne by the stomach; a very much less dose of this will act than that required to be given by the mouth.

Quininæ Hydrochloras, Quinine Hydrochlorate (*Off.*).

Syn.—MURIATE OF QUININE.

Dose.—1 to 10 grains.

In acicular white crystals generally larger than the sulphate, soluble 1 in 36 of water, 1 in 3 of rectified spirit.

Very soluble salt of Quinine, and richer in alkaloid than the sulphate; contains 83 per cent. against 74½ per cent. in the sulphate. Recommended for making Tincture of Quinine and as an antiseptic.—P.J. 1878,407.

Is a powerful germicide; 1 in 800 prevented the development of any germs in a liquid suitable for their growth.—B.M.J. ii./81,408; Trans. Med. Congress, 1881,i.466.

Quininæ Hydrochloras Acida.

Dose.—½ to 2 grains, hypodermically.

In white or yellowish white crystalline crusts very soluble in water. 1 in 6 is suitable for hypodermic injection.

Quininæ Iodas, Iodate of Quinine.

Dose.—1 to 5 grains.

Is in moderately soluble white silky needles.

Quininæ Iodidum, Iodide of Quinine.

Syn.—QUININÆ HYDRIODAS, Quinine Hydriodate, QUININÆ HYDRIODICUM, Quinine Hydriodide.

Dose.—1 to 5 grains.

Is in minute pale-primrose coloured crystals, but slightly soluble in water.

Quininæ Iodidum Acidum, Acid Iodide of Quinine.

Syn.—QUININÆ HYDRIODAS ACIDA, Quinine Acid Hydriodate, QUININÆ HYDRIODIDUM ACIDUM, Quinine Acid Hydriodide.

Dose.—1 to 4 grains.

Is in golden acicular crystals, freely soluble in water;

must be kept from the light. A saturated solution (about 2 grains in an ounce) in syrup of iodide of iron forms

Syrupus Ferri et Quininæ Iodidi.

Dose.—1 drachm.

Quininæ Lactas, Lactate of Quinine.

Dose.—1 to 5 grains, or more.

In commerce is found as a granular white amorphous powder, soluble 1 in 10 of water; said to be easy of digestion.

Is a very soluble salt of quinine and suitable for hypodermic injection.—L. ii./85,310.

For gonorrhœa, 1 per cent. solution forms an excellent injection.—Pr. xxxiv.132.

Quininæ Salicylas, Quinine Salicylate.

Dose.—2 to 6 grains.

In white silky flexible acicular crystals, sparingly soluble in water, and the addition of acids does not help its solubility. Should be administered suspended in water, or better in pills with glycerine of tragacanth and a little acacia as excipients.

Useful in rheumatic gout, 3 grains every 6 hours.—L. i./80,540,582.

Quininæ Sulphas, Sulphate of Quinine (*Off.*).

Syn.—QUININE SULPHATE; DISULPHATE OF QUININE. (Formerly so termed, often now called simply Quinine, as it is the salt most largely manufactured and most cheaply and conveniently made.)

Dose.—1 to 5 grains as a tonic; 5 to 15 grains or more as an anti-periodic.

In slightly flexible acicular snow-white crystals, with a pure, intensely bitter taste. Soluble 1 in 740 of cold water, 1 in about 100 of rectified spirit, 1 in 40 of glycerine, is precipitated from solution by tannic acid, alkalies and their carbonates, but redissolved by an excess of aqueous ammonia. It is generally prescribed in solution or pills. To render ordinary doses of it soluble in water, a dilute mineral acid in the proportion of at least one minim to each grain should be ordered, the sulphate should be moistened with a little water before the addition of the acid, particularly if this be sulphuric acid, the soluble acid salt formed will thus be held in solution, and this may be diluted *ad libitum.* Tincture of orange-peel agreeably harmonizes with and covers the bitterness of Quinine. Although incompatible with alkalies, it is often ordered in conjunction with aromatic spirit or carbonate of ammonia, which precipitate the quinia as a sticky mass on the sides of the bottle. To avoid this separation, some mucilage of acacia should be prescribed in the mixture, which prevents the aggregation of the alkaloid and holds it suspended in the liquid. In cases of fever, large doses are thought to be more efficacious with the sulphate of quinine not dissolved. It may be given in moist wafer paper, or, diffused in water if lightly powdered so as to break the crystals, but not to make them cake and adhere. It can be conveniently formed into pills by adding to 4 parts 1 of glycerine of tragacanth, carefully avoiding excess of the latter, or strong sulphuric acid in the proportion of one drop to five grains, makes a good pill; confection of hips is often used as an excipient, 3 parts require 1 or more of confection. The uses of Quinine internally are well known. Its solution possesses powerful antiseptic properties. Three grains to an ounce as an eye lotion has a specific action in diphtheritic ophthalmia.—L. i./80,125; L. i./82,6; L ii./83,12.

Collunarium Quininæ, Quinine Nasal Douche, T.H.

Sulphate of Quinine ...	½ grain.
Water	1 ounce.

Dissolve by the aid of gentle heat. Used in hay-fever, a little is placed in the palm of the hand and drawn up through the nose. If a stronger solution be required, the Acid Sulphate or Hydrochlorate of Quinine should be used, an excess of acid for this purpose should be avoided.

Syrupus Ferri, Quininæ et Strychninæ Phosphatis.—See Ferri Phosphas, p. 188.

Tinctura Quininæ (*Off.*).

Dose.—½ to 2 drachms.

Hydrochlorate of Quinine 1 grain is dissolved in a drachm of tincture of orange peel, and after three days iltered. A very agreeable form of taking small doses of Quinine. As suggested by the writer, Hydrochlorate f Quinine is now used in place of Sulphate.—P.J. 878,407.

Tinctura Quininæ Ammoniata (*Off.*).

Sulphate of Quinine	160 grains.
Proof Spirit	8 ounces.

Mix. Also mix

Solution of Ammonia	2½ ounces.
Proof Spirit	9½ ounces.

Add this to the above mixture, and the Quinine will dissolve immediately. Contains one grain in a drachm. The quinine precipitates on addition to water; mixed with an equal quantity of syrup of orange-peel, it is palatable, keeps bright, and bears dilution better.

Dose.—½ to 2 drachms.

Vinum Quininæ (*Off.*).

Contains one grain of the sulphate with a grain and a half of citric acid dissolved in one ounce of orange wine.

Dose.—½ to 1 ounce.

It is a much more satisfactory preparation, keeps brighter, &c., if made with the Hydrochlorate of Quinine.

Warburg's Fever Tincture. A nostrum, the published formula of which shows that it is a proof spirit tincture, containing Sulphate of Quinine 1 in 50, Socotrine Aloes 1 in 30, Opium about 1 in 1200, Rhubarb 1 in 125, Camphor 1 in 500 with several aromatics.—L. ii./75,716.

Dose.—1 to 4 drachms or more. Originally directed for Indian Fever, ague, &c., one ounce as a dose repeated in 2 or 3 hours; before giving the first dose the bowels should be freely opened, and no food recently taken. Between the two doses nothing should have been taken but a little brandy or beef-tea, and this only if the state of the patient required it.

Not to be compared with aconite in remittent fever.—Pr. xxvi.187.

Quininæ Sulphas Acida, Quinine Acid Sulphate.

Syn.—SOLUBLE SULPHATE OF QUININE, NEUTRAL SULPHATE OF QUININE (so-called when the other sulphate was called Disulphate).

Dose.—1 to 5 grains or more.

Usually met with in large rectangular prisms or masses of crystals. Soluble 1 in 12 of cold water.

Injectio Quininæ Sulphatis Acidæ Hypodermica.

Acid Sulphate of Quinine ...	1 grain.
Water, to	12 minims.

Dissolve.

Dose.—4 to 18 minims.

Quininæ Sulphocarbolas, Quinine Sulphocarbolate.

Dose.—1 to 6 grains in pill with glycerine of tragacanth. One part of Sulphate of Quinine and two parts of Absolute Phenol, liquefy and form an oily, colourless fluid. If hot aqueous solutions of the two are mixed in equivalent quantities, Sulphocarbolate of Quinine separates on cooling. This salt is met with in commerce as an amorphous white powder, soluble 1 in 680 of water, 1 in 74 rectified spirit. The so-called Carbolate of Quinine is generally a Sulphocarbolate as found in commerce.

Quininæ Valerianas.

Dose.—1 to 4 grains.

In white shining crystalline, odourless, rhomboidal plates, or, as more frequently met with in commerce, an amorphous white powder with a slight valerianic odour, soluble 1 in 110 cold water; best administered in pills with glycerine of tragacanth and a little acacia as excipients; given in nervous headache and hysteria.

QUINOIDINA.

Quinoidine.

Syn.—Chinoidin, U.S.

Dose.—1 to 5 grains or more.

The mixed amorphous alkaloids, purified from resin, obtained as a bye-product in preparing salts of cinchona alkaloids. It is a brownish-black, resinous-like substance, has a vitreous fracture, nearly insoluble in water, is dissolved by acid solutions, which deposit on dilution. Solutions either in boracic or sulphuric acid are used as cheap febrifuges. The taste of these is very nauseous.

RESORCIN.

Dose.—5 to 15 or 30 grains.

A derivative of benzol or phenol, in white crystalline plates, larger than, but resembling, benzoic acid in appearance, melts at 110° F., and is easily volatilised. Soluble in less than 2 parts of water, and 1 in 20 of olive oil. It possesses powerful antiseptic properties. A one per cent. solution prevents putrefaction in such substances as pancreas, blood, and urine, and a stronger solution will destroy the vitality of low organisms. It coagulates albumen, and has a caustic action on the skin, but a 2 per cent. solution is not irritating to it. It is an effective remedy in diphtheritic affections, and produces no injurious consequences. A 5 per cent. solution may be injected into the bladder without causing any irritation, and is useful in inflammatory affections of this organ, likewise in vesical catarrh after gonorrhœa; 5 to 10 per cent. solution is of service also in syphilitic sores and skin diseases; and a 1 per cent. solution improves the appearance of unhealthy wounds, and is useful as an eye lotion in conjunctivitis. Given internally, it has a specific action comparable to quinine; is best administered well diluted with water and flavoured with syrup of orange or glycerine.—L. ii./80,777; L. ii./81,1065; B.M.J. ii./81,944; Pr. xxvii.381; Pr. xxix.189; Pr. xxx.63.

Use as an application in cancer.—L. ii./82,1033.

Case of poisoning by, with recovery.—M.T.G. ii./81,486.

Whooping-cough, 30 successful cases treated by spray of resorcin every two hours.—B.M.J. i./84,695.; and as a pigment to the larynx 1 per cent. solution used.—Edin. Med. Jour. 1884,61.

For impetiginous eczema, 1 or 2 to 10 of vaseline.—Edin. Med. Jour. 1884,66.

In diphtheria, 50 per cent. solution as a pigment, and internally 1 to 4 grammes daily.—L. ii./85,452.

Useful as a topical application in diphtheria, also internally in hectic with night sweats; these were unaffected by quinine alone, but under resorcin 2 grains and quinine 3 to 5 grain doses an improvement rapidly took place.—L. ii./85,558.

In psoriasis, a 20 per cent. ointment stains little, does not smell badly, nor injure the general health, but causes some pain.—L. ii./85,577.

RHAMNI FRANGULÆ CORTEX.

Frangula Bark (*Off.*).

Syn.—Black Alder; Cortex Frangulæ.

This bark is imported principally from Holland in quills about half a line thick, with a warty, greyish brown exterior, contains the crystalline principle Emodin; this is also found in rhubarb root. The bark should not be employed medicinally until it is at least one year old, else, it is stated, it produces sickness as well as purging. It possesses tonic, laxative properties, does not cause griping, or does not need the dose increased if habitually taken. It is especially useful in cases of hæmorrhoids.—P.J. 1871,152; P.J. 1874,889.

Extractum Rhamni Frangulæ (*Off.*).

Dose.—15 to 60 grains. Is a proof spirit extract.

Extractum Frangulæ Liquidum (*Off.*)

Dose.—1 to 4 drachms.

The bark is exhausted by boiling with successive quantities of water, the decoctions concentrated, and spirit added, so that one ounce = one ounce of bark.

Trochisci Rhamni Frangulæ are sold as a special preparation under the name of "Aperient Fruit Lozenges."

Dose for an adult.—1 to 1½ or 2 lozenges.

RHAMNI PURSHIANÆ CORTEX.

Sacred Bark (*Off.*).

Syn.—Cascara Sagrada.

The dried bark of *Rhamnus Purshiana*; is employed to prepare:—

Extractum Cascaræ Sagradæ (*Off.*).

Dose.—2 to 8 grains in a pill.—Is a weak spirituous extract.

Extractum Cascaræ Sagradæ Liquidum (*Off.*).

Dose.—10 to 60 minims. Is prepared as Extractum Rhamni Frangulæ Liquidum.

These two, and a Cascara Cordial—dose 15 to 60 minims—are said to possess special "tonic laxative" properties. Large doses are cathartic, small are tonic and stomachic.

In obstinate constipation, 20 drops 3 times a day and dose then gradually lessened, establishes a habit of regularity; for children smaller doses give good results.—B.M.J. i./83,456.

Acts as a vegetable bitter, increases peristalsis, empties rectum, and is useful for internal piles.—Edin. Med. Jour., 1884,753,845.

Is certainly a good laxative in habitual constipation.—B.M.J. i./84,556.

Cascara Amarga, Picramnia Bark.

A fluid extract of this is said to be tonic, alterative, and antisyphilitic.

RHUS.

Poison Oak.

Syn.—Poison Ivy; Rhus Toxicodendron Leaves.

Tinctura Rhois.

Dose.—1 to 5 minims or more. (?)

This is generally imported from North America, as it is said to be best prepared from the fresh leaves, collected at sunset and never exposed to the sun. The emanations of the living plant produce an eczematous eruption of the skin. It has been used for rheumatism in chronic cutaneous affections, paraplegia, and incontinence of urine from atony of the bladder.

Emplastrum Rhois in rubber combination, 1 yard rolls, is an imported preparation.

The bark of the root of **Rhus Aromatica,** Sweet Sumach, is said to be pungent, aromatic, astringent, stimulant, diuretic, and tonic; useful in diseases of the urinary organs and atonic diarrhœa. The fruit and bark of the common sumach, *Rhus glabra,* are also used as astringents.

RUMICIN.

Dose.—1 to 4 grains, in a pill with glycerine of tragacanth.

The dried extract of the root of *Rumex crispus*—yellow dock. Possesses astringent, tonic, and anti-scorbutic properties, and is given in scrofulous skin diseases and as a depurative in congested liver and dyspepsia. Yellow dock root contains Chrysophanic Acid.

Tinctura Rumicis.

One of yellow dock root in 10 of proof spirit.

Dose.—1 to 10 minims or more.

SANGUINARIN.

Dose.—¼ to 1 grain, in a pill with glycerine of tragacanth.

The powdered resinoid of a coffee-brown colour obtained from blood-root—*Sanguinaria Canadensis.* In small doses, stimulant and tonic; in larger doses sedative, reducing the pulse, and increasing expectoration; in still larger doses, emetic.

Reference.

On dog, stimulates secretion of bile, which is more watery. Is a decided and powerful cholagogue, over-doses are emetic.—B.M.J. Rep. 1878,65 ; Pr. xxiii.411.

It is undoubtedly emmenagogue and useful in functional amenorrhœa, also useful in dyspepsia and gastro-intestinal catarrh.—B.

SANTONINUM.

Santonin (*Off.*).

Dose.—2 to 6 grains in sugar or milk.

A neutral crystalline principle obtained from Santonica or Cina, the flower-heads of *Artemisia maritima vars. α Stechmanniana* and *β pauciflora.* Santonin is insoluble in water, slightly soluble in alcohol and oils (1 in 100 of castor oil). Soluble in caustic soda solution, exposed to light it turns yellow. Poisonous properties have been ascribed to it, probably due to impurities. It is a useful anthelmintic for round and thread worms. It colours the urine orange, and in too large a dose may cause objects to appear of a green or yellow colour.

As an anthelmintic is most active administered in an oily solution.—L. i./83,971.

Haustus Santonini et Olei Ricini.

Santonin in powder	...	4 grains.
Castor Oil ...	...	3 drachms.
Mix and emulsify with		
Mucilage of Acacia	...	4 drachms.
Syrup ...	...	1 drachm.
Peppermint Water to	...	1½ ounce.

Taken fasting in the morning makes a dose for a child of 6 to 12 years.

Trochisci Santonini (*Off.*).

These lozenges contain 1 grain in each, with a plain sugar basis; one every night for a few nights should then be followed by an early morning aperient.

Suppositorium Santonini.

Santonin in powder	...	3 grains.
Oil of Theobroma	...	*q.s.*

To make a suppository. Should be administered every 2nd or 3rd night, for 3 times. Is an efficient anthelmintic, especially for thread worms, which often infest the anus of children, causing them to have disturbed sleep.

References.

Inoperative against tape worm; 2 to 4 grains according to age, with one or more teaspoonfuls of castor oil early in the morning, repeated two or three mornings, seldom fails for thread worms.—R.

Peculiar effects on the eyes and sight; does good in iritis, 30 grains distributed into 10 doses, in 5 days.—M.T.G. ii./60,219.

Convulsions in a child produced by 1½ grain.—L. ii./76, 443.

Poisonous symptoms from its depressing effects on the nervous system.—B.M.J. i./79,322.

For amenorrhœa, dependent on anæmia or chlorosis, 10-grain doses were effectual.—L. ii./85,431.

Sodii Santonas, Santonate of Sodium.

Dose.—5 to 10 grains.

In large colourless rhomboidal crystals, obtained by combination of Santonin with Caustic Soda, soluble 1 in

100 of water, freely soluble in hot glycerine, but separates on cooling; slightly soluble in syrup, has a mawkish, not disagreeable taste; may be administered in aqueous solution flavoured with syrup of orange, or in warm milk.

SAPO VIRIDIS.

Green Soap.

GERMAN.—**Grune Seife. Sapo Kalinus.**

In Germany this term is applied to the common potash or soft soap in commerce. It is generally made with either hemp seed or linseed oil. It differs from the common soft soap of English commerce, which is a potash soap made from fish oils and has a disagreeable odour, which the former is void of. The Green Soap has a pale brownish green colour, and is a useful detergent in some skin diseases. In the German Pharmacopœia, 1882, Sapo Kalinus is directed to be prepared with linseed oil only.

SCILLIPICRIN.

Dose.—?

A principle obtained from *Scilla maritima*—the squill bulb. Is an amorphous yellowish white powder, very hygroscopic, and soluble in water—suitable for hypodermic injection. Acts powerfully on the heart, retarding its action, and in toxic doses—$\frac{1}{60}$ to $\frac{1}{30}$ grain in the frog—arrests the heart in diastole.—B.M.J. ii./79,498; P.J. 1879,1038.

SCILLITOXIN.

Syn.—SCILLAIN.

Dose.—?

A principle from *Scilla maritima* the squill bulb. Is an amorphous cinnamon-brown powder, insoluble in water and ether; soluble in alcohol, this solution has a bitter, burning taste. It is also soluble in aqueous alkaline solutions. The powder is very irritating to the nostrils. It arrests the action of the frog's heart in systole, and is about 8 times as strong a poison as scillipicrin.—B.M.J. ii./79,498; P.J. 1879,1038.

SCUTELLARIN.

Dose.—1 to 5 grains, in a pill with glycerine of tragacanth.

The dried extract of *Scutellaria lateriflora*—mad-dog skull-cap. Is of a greenish brown colour, and is given as a nervous stimulant.

SODIUM SALTS.

By experiments on the ventricle of the frog's heart it has been proved that, whilst Potassium Salts are very poisonous, Sodium Salts can scarcely be made to kill. By Potassium Salts excitability and contractility are both powerfully affected; by Ammonium Salts excitability practically unaffected, contractility powerfully affected; a wide gap separates Sodium Salts from the last, by these excitability is slightly affected, but contractility suffers chiefly; Potassium Salts, by these experiments, are 14 or 15 times as poisonous as Sodium Salts. The therapeutic importance of these results is obvious. Bromide, iodide, and chlorate of potassium are largely given as medicines; the above would suggest the use of the Sodium Salts in preference. Clinical evidence tends to prove the same by their action on the entire organism, as may be judged by the favour shown of late to the latter salts, especially to Bromide of Sodium.—L. i./82,1033; L. ii./82,736; B.M.J. i./82,942; Pr. xxvii.7.

Sodii Arsenias.—See p. 86.

Sodii Benzoas.—See Acidum Benzoicum, p. 32.

Sodii Bromidum (*Off.*).

Dose.—10 to 30 grains or more.

A slightly deliquescent granular white powder, tasting like common salt; soluble 8 in 9 of water. The anhydrous salt only should be used medicinally, it can be crystallized containing 26 per cent. of water. If therapeutically as active as bromide of potassium, Bromide of Sodium is preferable, from its weaker action on the heart.—Pr. xxviii.7; L. ii./82,736; Pr. xxxi. 224, *ex* Boston Med. and Surg. Journ. cviii, 438.

Use in Epilepsy with cardiac complications.—Pr. xxii.81.

Sodii Chloras.

Dose.—10 to 30 grains.

In large regular modified tetrahedric crystals, colourless, and has a mawkish, not disagreeable, saline taste, soluble 1 in less than 2 parts of water, and 1 in 34 of rectified spirit. It fuses and deflagrates when exposed to a red heat. For many purposes for which chlorate of potassium is used, this salt is to be preferred. For stomatitis, with ulceration along the edges of the gums, the evidence in its favour is every bit as unequivocal as it is for potassium chlorate.—L. ii./82,736.

Case of poisoning by chlorate of potassium taken instead of the alkali of a seidlitz powder.—L. ii./81,193; B.M.J. ii./81,23.

Gargarisma Chlori, Chlorine Gargle.

Chlorate of Sodium in powder ...	10 grains.
Hydrochloric Acid	30 minims.

Mix in a pint bottle, and let the gas generate and replace the air in the bottle, then cork the bottle, and let it stand for two minutes; lastly add gradually, shaking after each addition,

Distilled Water to... ... ... 1 pint.

Useful as a detergent, and to remove folicular patches. 2 or 3 ounces in a quart jug may be used as an inhalation (cold). Chlorate of potassium may be used in place of the sodium salt, but the latter is less nauseous.

Trochisci Sodii Chloratis (3 grains in each).

Are prepared in two forms, with black currant paste, and with plain sugar. They are much more palatable than chlorate of potassium lozenges, and are quite as beneficial as these in affections of the mouth and throat. —L. ii./82,737.

Sodii Citras.

Dose.—10 to 60 grain.

Is in small granular crystals, resembling common salt; it is given as a cooling saline, in preference to citrate of potassium.

Sodii Ethylas, Ethylate of Sodium.

A deliquescent caustic salt in white or whitish light pulverulent crystals, prepared by dissolving metallic sodium in Ethylic Alcohol, and concentrating to crystallize.

Liquor Sodii Ethylatis (*Off.*).

Is prepared by dissolving sodium 1 in ethylic alcohol 20, keeping the latter cool by a stream of cold water; has Sp. Gr. 0·867.

It may be more conveniently made by mixing and keeping cool while dissolving—

Ethylate of Sodium	1 part, in
Ethylic Alcohol	8 fluid parts.

The solution is syrupy, colourless, but darkens to a brown colour, and is recommended as the most manageable and effective of all caustics. It is used to destroy nævi and other vascular growths. It should be lightly, but effectually applied to the part by means of a pointed glass rod for 2 or 3 successive days, when a scale or scab will form, which should be left until it is loose, and the treatment continued again. It is said to cause little or no pain. No water should be allowed to touch the part under treatment.—M.T.G. ii./70,472; L. ii./78,625,654: L. i./81,168,242; P.J. 1878,479,480,485.

Lupus, several cases completely cured by it.—Pr. xxxiv.370.

Pasta Londinensis, London Paste, T.H.

Caustic Soda and Unslaked Lime of each equal parts, rubbed together in a warm mortar—made into paste when required for use as a caustic. It is said to be less painful than **Vienna Paste,** which is Caustic Potash 5, Slaked Lime 6, made into a Paste with spirit.

Sodii Hippuras.—See p. 33.

Sodium Hypobromite, Solution of.

Caustic Soda	100 grammes.
Distilled Water	250 c.c.

Dissolve, cool, and add guttatim.

Bromine	25 c.c.

Mix and dissolve. This solution is used to estimate the amount of urea in a given quantity of urine. On adding the solution, nitrogen is evolved from the urea, and is measured in a suitable apparatus, in which each graduation represents 1 per cent. of urea in the urine.—Jour. Chem. Soc., 1874, 749; L.II. 228; L. ii./74,695; L. i./77,559.

Sodii Hypophosphis.—See p. 275.

Sodii Hyposulphis. — See **Acidum Sulphurosum,** p. 63.

Sodii Iodidum (*Off.*).

Dose.—3 to 20 grains.

A very deliquescent white powder may be made by decomposing a solution of iodide of iron with carbonate of sodium, filtering and evaporating the filtrate to dryness. Soluble 3 in 2 of water.

Sodii Nitris.

Dose.—2 to 5 increased to 10 grains.—**Compressed Tablets**, weighing 2½ grains each, are prepared.

A white, deliquescent, granular crystalline powder, with a cooling saline taste, soluble 1 in 1 of water; useful in angina pectoris and in epileptiform convulsions. In these has an action similar to nitrite of amyl.—Pr. xxviii.420; Pr. xxx.179,321.

17 cases of epilepsy, in 9 the drug succeeded in controlling the fits, 12 grains the most suitable dose.—L. ii./82,941; B.M.J. ii./82,1095.

In epilepsy, scruple doses, with the same of bromide of potassium, after 8 weeks patient thought himself better. In another case, scruple doses given alone, it failed.—Pr. xxx.105. (? Impure salt used.)

Its effects in cases of angina pectoris, in dose of 5 to 10 grains, compared with nitrite of amyl and nitroglycerine are said to be more lasting.—Pr. xxx.179,321.

To healthy adults doses of 10 and 5 grains are unbearable, and many cannot bear even 3-grain doses.—L. ii./83,766.

Sodii Permanganas.—See p. 292.

Sodii Phosphas (*Off.*).

Syn.—HYDRO-DI-SODIC PHOSPHATE; TASTELESS PURGING SALT; PHOSPHATE OF SODIUM.

Dose.—20 grains to 1 ounce, may be given in broth or soup.

Soluble 1 in 5 of water, is very efflorescent, loses 63 per cent. of its weight when heated to dull redness.

Sodii Phosphas Effervescens.

Dose.—1 to 3 drachms.

This forms a convenient and pleasant mode of taking this useful purgative.

Sodii Phosphas Exsiccata.

Dose.—10 grains to 4 drachms in some warm liquid. Phosphate of sodium is mildly aperient, well suited for a delicate stomach; in small doses it is antacid and diuretic, useful in bilious sick-headache and jaundice.

It acts as a powerful hepatic stimulant and a moderately powerful intestinal stimulant, on the dog.—B.M.J. i./79,177.

For hepatic calculi, 60 grains 3 times a day, recommended with $\frac{1}{20}$ grain arseniate of sodium added, if any evidences of gastric intestinal catarrh are present.—B.

Sodii Salicylas.—See Acidum Salicylicum, p. 57.

Sodii Santonas.—See Santoninum, p. 308.

Sodium Silicate, solution of.

Syn.—Soluble Glass.

A viscid solution, the consistence of treacle, usually containing 10 per cent. of caustic soda and 20 per cent. of silica. Silicate of Sodium solution has a remarkable power in arresting the putrefaction of organic matter. Diluted solutions have been employed as injections in leucorrhœa, gonorrhœa, uterine ulceration, into the bladder in cystitis, and the nostrils for ozœna. The corresponding potash preparation has been similarly used, also in erysipelas diluted with from 4 to 11 parts of water. The latter, care being taken that it was neutral, has been employed to paint over the affected part with success.—Pr. xv.293.

Potassium Silicate, Solution of.

Syn.—Soluble Glass.

Is less viscid than the last. Both preparations have been employed to impregnate bandages for treating fractures and other surgical cases, in place of starch; but a mixture of these forms the best

Soluble Glass, for Bandages. *i.e.*, Solution of Silicate of Potassium 2 pounds, Solution of Silicate of Sodium, 1 pound; this dries more quickly and sets more firmly than either solution used separately.

Sodii Sulphas Exsiccata.

Dose.—$\frac{1}{2}$ to 2 drachms.

On drying sulphate of sodium (Glauber's salt) it loses about one-half its weight (the water of crystallization), leaving the anhydrous salt—a preparation which is much more convenient for use in dispensing, especially in powders. The Epsom salt, although a more active aperient than Glauber's salt, does not stimulate the liver like the latter, and is not nearly so agreeable to take. In weak solution these salines act much more efficiently.—P. xvii. 241.

Sulphate of sodium exhibits no poisonous action when injected into the circulation, but sulphate of magnesium when so injected acts as a powerful toxic agent, paralysing first the respiration and afterwards the heart. Neither purge when injected into the blood or subcutaneously.—B.M.J. i./85,1161.

Glauber's salt is most pleasant to take, in the form of

Sodii Sulphas Effervescens, Granular Effervescent Sulphate of Sodium.

Dose.—A teaspoonful, more or less, in half a tumbler of water, taken half an hour before breakfast.

An agreeable and palatable aperient introduced by the author, stimulating both the liver and bowel without causing depression. Its action resembles that of Carlsbad Water. It is suitable for travellers, being portable, and stable in composition.—L. ii./79,879; B.M.J. i./80,21.

Sodio-Magnesii Sulphas Effervescens, Granular Effervescent Sodio-Magnesian Aperient.

Dose.—A teaspoonful, more or less, in half a tumbler of water, taken half an hour before breakfast.

An agreeable and efficient aperient introduced by the author. The Sulphates of Sodium and Magnesium combined resemble Hunyadi Janos and Pullna waters; also Friedrichshall, if a little common salt be added to each dose. This preparation is palatable, stable in composition, and convenient to use when travelling.

⁂ The activity and palatability of the two last preparations may be increased, especially in winter, if taken in warm water. The combination of the two salts makes a more active purgative, but the effervescent sulphate of soda alone is more pleasant to take.

Pulvis Seidlitz, Seidlitz Powders, have

Tartarated Soda (Rochelle Salt)	120 grains
Bicarbonate of Sodium	40 grains
In the blue paper.	
Tartaric Acid	36 grains
In the white paper.	

Sodii Sulphis. See Acidum Sulphurosum, p. 63.

Sodii Sulpho-carbolas.—See Acidum Carbolicum, p. 43.

Staphisagriæ Semina (*Off.*). See p. 164.

STILLINGIA, U.S.

The root of *Stillingia sylvatica*, queen's root, queen's delight, is used medicinally in America. In large doses it is emetic and cathartic, in small doses alterative, used for scrofula, syphilis, jaundice, dropsy depending on liver disease, and for piles.

Extractum Stillingiæ Fluidum, U.S.

Dose.—15 to 60 minims, one part = 1 of root.

Liquor Stillingiæ Compositus (McDade).

A remedy for syphilis, consists of fld. ext. Smilax Sarsaparilla, fld. ext. Stillingia, fld. ext. Lappa Minor (burdock), fld. ext. Phytolacca, of each 2 oz., tincture of Xanthoxylum Carolinianum (prickly ash), 1 oz.; a teaspoonful increased to a tablespoonful three times a day before meals.—B.M.J. i/83,449.

Stillingin. The chocolate brown powdered extractive.

Dose.—1 to 3 grains in a pill.

STRYCHNINA (*Off.*).

Strychnine.

Dose.—$\frac{1}{30}$ or less to $\frac{1}{12}$ grain, in solution or in pill, triturated with sugar of milk, and glycerine of tragacanth *q.s.*

The alkaloid obtained from Nux Vomica, St. Ignatius' beans (see p. 249), and the seeds of other species of *Strychnos*. In right square octahedrons or prisms, colourless and inodorous. Amorphous Strychnine should not be used, as it is more liable to contain, as an impurity, Brucine (also contained in *Nux Vomica*). Pure Strychnine should not be coloured by strong nitric acid, indicating an absence of Brucine. It is very slightly soluble in water, about 1 in 6,000, about 1 in 100 of proof spirit, soluble also in chloroform, but insoluble in absolute alcohol and ether. Its salts are more soluble, and acids render the alkaloid more soluble in water. It is very poisonous; it affects the spinal cord by producing convulsions resembling those of tetanus. Its properties are so well known as not to need further description here.

It is antagonistic to calabar bean and its preparations.

yet not in the sense that the administration of the one can save life after the administration of a fatal dose of the other, as chloral may in Strychnine poisoning.—B.M.J. ii./74,805.

In addition to the **Liquor Strychninæ Hydrochloratis,** containing 1 per cent. of strychnine, or 4½ grains in the ounce (of water 6 drachms, rectified spirit 2 drachms, with diluted hydrochloric acid 7 minims)—*dose*, 5 to 10 minims—the following salts and non-official

Preparations

Are in use:—

Ferri et Strychninæ Citras.

Dose.—3 to 8 grains in aqueous solution.

In scales of a greenish golden colour resembling citrate of iron and quinine, freely soluble in cold water. It contains 1 per cent. of Strychnine. Some makers of this preparation send it out dark brown in colour, resembling citrate of iron and ammonia; it then contains only the Ferric Citrate with Ammonia, and with this preparation it is difficult to distribute the Strychnine uniformly, as it is apt to crystallize out of the concentrated liquor before "scaling."

Ferri, Quininæ et Strychninæ Citras.

Dose.—3 to 10 grains.

This is in scales of a greyish-golden colour like the former preparation, but in addition to 1 per cent. of Strychnine it contains 16 per cent. of Quinine.

Strychninæ Acetas.

Dose.—$\frac{1}{24}$ to $\frac{1}{10}$ grain.

In small colourless acicular crystals, soluble 1 in 80 of water.

Strychninæ Nitras.

Dose.—$\frac{1}{24}$ to $\frac{1}{10}$ grain.

In hard colourless needles, soluble 1 in 70 of water.

Injectio Strychninæ Nitratis Hypodermica.

Nitrate of Strychnine ...	2 grains.
Glycerine	50 minims.
Distilled Water	50 minims.

Heat gently till dissolved.

Dose.—1 to 4 minims.

In nocturnal incontinence of urine used with good results.—Pr. xxxiii.376.

In amaurosis used with powerful curative effects.—M.T.G. i./71,76,431.

In gastralgia, no such remedy as this, also recommended to relieve pain of cardialgia and gastrodynia.—Anstie in R.

Strychninæ Sulphas.

Dose.—$\frac{1}{24}$ to $\frac{1}{10}$ grain.

The neutral salt is in prismatic crystals, soluble about 1 in 80 of water.

Strychninæ Sulphas Acida.

Dose.—$\frac{1}{20}$ to $\frac{1}{10}$ grain.

In white silky acicular crystals with a slightly acid reaction, soluble 1 in 36 of water. This salt is best adapted for hypodermic injection.

Injectio Strychninæ Sulphatis Hypodermica.

Acid Sulphate of Strychnine	1 grain.
Distilled Water	40 minims.

Dose.—1 to 3 minims.

Bromide of Potassium 15 to 20 grains an antidote to Strychnia poisoning (Pr. xxiv.210). The dose of bromide should be at least 4 drachms and repeated in 2-drachm doses every quarter of an hour.—Murrell on Poisons.

Poisoning by three quarters of a grain successfully treated by one drachm of hydrate of chloral with half an ounce of bromide of potassium and an ounce afterwards given in divided doses.—L. i./81,52.

Stimulates the respiratory centres and is useful in embarrassed breathing.—Trans. Med. Congress, 1881, i.453.

Paraldehyde is antagonistic to Strychnine.—M.P.C. i./84,232.

SULPHUR.

Dose.—20 to 60 grains in milk, treacle, with confection of senna, or as Pulvis Liquiritiæ Compositus (p. 198).

This is official as **Precipitated Sulphur** and **Sublimed Sulphur**. From the latter is prepared Confectio Sulphuris: Sulphur 4, Acid Tartrate of Potash 1, Syrup of Orange-peel 4, Tragacanth $\frac{1}{24}$—*dose*, 1 or 2 drachms; and Unguentum Sulphuris: 1 to 4 of Benzoated Lard; it is also used for making the two following ointments, but **Precipitated Sulphur** in all these preparations, for use either internally or externally, being free from grittiness, is much to be preferred; it is in fine powder if genuine, sublimes without residue, and has not the glistening appearance of the old lac sulphuris (due to the presence of sulphate of calcium).

Unguentum Sulphuris c. Hydrargyro, U.C.H.

Sublimed Sulphur	30 grains.
Ammoniated Mercury ...	5 grains.
Olive oil	8 minims.
Lard	8 drachms.

To this may be added, to disguise its colour or odour, or increase its activity, either 2 grains of vermilion, 10 minims of eucalyptus oil, 10 grains of carbolic acid, or 5 minims of creasote. Useful in scabies and allied skin diseases of doubtful diagnosis.

Unguentum Sulphuris Hypochloritis.

Sublimed Sulphur	1 drachm
Essential Oil of Almonds ...	10 minims.
Prepared Lard	7 drachms.

Mix, and add with quick manipulation

Chloride of Sulphur (Liquid)	8 minims.

Keep in a stoppered bottle; is sometimes made double this strength, i.e., with half the quantity of basis. Useful in acne, psoriasis, and scabies.

Unguentum Sulphuris Iodidi (*Off.*). Has 30 grains to hard paraffin ¼ ounce and soft paraffin ¾ ounce; it mixes more readily if the iodide be first triturated with a little spirit; is useful for acne.

TABLETS, COMPRESSED,

Are prepared of a lenticular shape of the following drugs:—

Ammonium Chloride	3	grs. in each.
Ammonium Chloride	2½	„ „
Borax	2½	
Lithium Citrate	5	„ „
Potassium Bicarbonate... ...	5	„ „
Potassium Bromide	5	„ „
Potassium Bromide	10	„ „

Potassium Chlorate	5	grs. in each.
Potassium Chlorate (effervescing)	3	,, ,,
Potassium Chlorate	3½	,, ,,
Ammonium Chloride	1½	
Potassium Chlorate	2½	,, ,,
Borax	2½	
Potassium Iodide	5	,, ,,
Sodium Bicarbonate	5	,, ,,
Sodium Nitrite...	2½	,, ,,

Soda-Mint, or Neutralising Tablets.

Sodium Bicarbonate	4	,, ,,
Ammonium Carbonate	¼	
Oil of Peppermint	⅛	

TEREBENA PURA.

Pure Terebene.

Dose.—5 to 30 minims.

An isomer of oil of turpentine produced by the action of sulphuric acid (oil of vitriol) on the latter, and distillation. Is colourless, and has a very agreeable odour resembling fresh-sawn pine wood. It is not miscible with water, but may be emulsified by mixing it with one-sixth its weight of tragacanth powder, then adding water and shaking well. It is a powerful yet agreeable antiseptic, disinfectant, and deodoriser.

Vapor Terebenæ, T.H.

Terebene, pure	40 minims.
Light Carbonate of Magnesia	20 grains.
Distilled water ... to	1 ounce.

A teaspoonful in a pint of water at 140° for a stimulant inhalation. For medicating the antiseptic respirators, 10 drops of a mixture of equal parts, Terebene, carbolic acid, and spirit of chloroform, is often used.

A dark-coloured liquid, with an odour resembling but not so agreeable as the above, is sold as a disinfectant, under the name of Terebene, and must be distinguished from the pure chemical bearing this name as above described; it is a useful deodoriser, but, being insoluble in water, does not permeate decomposing substances.

References.

The vapour of Terebene is a useful sedative and antiseptic inhalation in phthisis, and, administered internally at the same time in 5-minim doses, it destroys the virus of swallowed sputa, and lessens the risk of intestinal infection; useful also in dysentery.—B.M.J. ii./81,666.

Recommended for medicating the cotton wool of respirator for dry antiseptic inhalation in phthisis.—B.M.J. ii./82,7; Pr. xxix.94.

Terpin-Hydrate.

Syn.—TERPENE HYDRATE.

Dose.—2 to 6 grains.

A derivative of oil of turpentine in prismatic crystals, resembling those of hydrate of chloral, sparingly soluble in water, more so if heated, soluble in alcohol and in oils. Has the odour of terebene, and has been used with success in bronchitis, chronic and subacute; it assists expectoration in catarrhal affections.—M.T.G. ii./84,768; L. ii./85,404.

TEREBINTHINA CHIA.

Chian Turpentine, P.L.

Dose.—5 to 10 grains.

An oleo-resin flowing from the incised trunk of *Pistacia Terebinthus;* obtained from Chio. The use of this drug, which had fallen into desuetude, was, in 1880, revived as a remedy for cancer of the female generative organs. In commerce it is often factitious. The genuine drug has a very firm honey-like consistence, yet is slightly brittle, and becomes more so with age and exposure to the air. It is translucent, small pieces appear yellow or brownish-yellow, but in mass it has a greenish-brown colour. It has, when fresh, a distinctive odour, slightly like the pinaceous turpentines, but much more agreeable and aromatic, resembling citron and jasmine, or, according to Pereira and Guibourt, more like fennel; but there is always a background smell like that of mastic, which becomes more developed and distinct with age, when it has lost the volatile portion, the essential oil. Its taste resembles that of mastic; it is agreeable and free from the bitterness and acridity of the pinaceous turpentines.—P.J. 1880, 854,271.

Mistura Terebinthinæ Chiæ.

Ethereal Solution of Chian Turpentine (1oz. in 2 fl. oz. Pure Ether)	15 minims.
Mucilage of Acacia	2 drachms.
Syrup	30 minims.
Sublimed Sulphur	2½ grains.
Distilled Water to	1 ounce.

Dose.—One ounce three times daily.—L. i /80,478; P.J. 1880,854.

Pilula Terebinthinæ Chiæ.

Chian Turpentine	3 grains.
Sublimed Sulphur	2 grains.

Make 1 pill: dose, 2 every 4 hours.

Pilula Terebinthinæ et Zinci, L.H.

Chian Turpentine	4 grains.
Sulphate of Zinc	1 grain.

Make 1 pill: dose, 1 to 3 pills.

References.

Cases of cancer of the female generative organs successfully treated by Chian turpentine.—L. i./80,477; Pr. xxv.45; L. ii./81,1033.

Correspondence on above.—L. i./80,582; L. ii./80, 533,955; L. i./81,155.

Summary of correspondence.—M.R. 1880,446.

Its failure in the treatment of cancer.—L. i./80,1019; L. ii./81,1155.

Pharmaceutical preparations of.—P.J. 1880,854.

Letter on production of.—L. ii./80,588; P.J. 1880,271.

Sarcoma, case of, benefited by.—L. i./82,866.

TEST SOLUTIONS.

Fehling's Solution (modified by the writer).

No. 1.

Sulphate of Copper	181 grains.	3/11
Distilled Water to	6 ounces.	

Dissolve.

No. 2.

Tartrate of Potassium, neutral	728 grains.	/2 d.
Caustic Soda	360 grains.	6 d.
Distilled Water to	6 ounces.	

Dissolve. Of these two solutions mixed in equal volumes, 10 c.c. will be decolorised by, and will reduce, 0·05 gramme of glucose or diabetic sugar in solution, with precipitation of yellowish red cuprous oxide, when the two are boiled together. No. 2 solution should not be kept in a very cold place, else it will crystallize. By keeping the copper solution separate from the alkaline solution the test is prevented from becoming erroneously sensitive.*

Cupric Pellets,—the salts of Fehling's solution are prepared compressed into tablets.

Glass Capsules, containing about 1 c.c. of Fehling's Solution, are also prepared.—L. ii./80,192

Papers impregnated with **Indigo-Carmine, Sulphindigotate of Sodium,** are also prepared for testing urine for sugar, they can be had for qualitative testing or for quantitative estimation. L. i./83,858,928,1021.

Albumen Tests :—

Acidulated Brine Test.

Diluted Hydrochloric Acid...	1 ounce.
Water	19 ounces.
Common Salt	3 pounds or *q.s.*

To saturate. An equal volume of this solution is carefully added to the suspected urine contained in a test-tube held aslant. If albumen be present, a white cloudy zone appears at the junction of the two fluids. The precipitate is not insoluble, but is redissolved by dilution with water, or even with the albuminous urine itself.—L. ii./82,613.

Ferrocyanic Acid Test Pellets.

Yellow Prussiate of Potassium and Acetic or Citric Acid mixed in solution set free Hydroferrocyanic Acid. On the addition of such a solution to urine, it gives, without heat even, a distinct opalescence if a small, and a dense white precipitate if a large quantity of albumen be present. Pellets are made of citric acid and also of ferrocyanide of potassium to be portable. In about a

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*Ammoniated Cupric Test (Pavy).

Tartarated Soda, and Caustic Potash, of each	178 grains.
Distilled water	*q.s.*

Dissolve and add in aqueous solution

Sulphate of Copper	36½ grains.

When cold add

Strong solution of Ammonia, sp. gr. 0·88 ...	6 ounces.
Distilled Water... ... ... to	1 pint.

This solution is not hyper-sensitive, ammonia is a solvent for the suboxide of copper, yet it does not interfere with the reduction of the oxide in sugar testing. 10 c.c. of the solution further diluted are kept boiling in a flask, air being excluded, while the urine *q.s.* is added to discharge the colour, a table shows the amount per 1,000 it will contain.—L. i./84,376.

drachm of urine, in a test tube, an acid pellet is first dissolved, next a ferrocyanide pellet is added and allowed to dissolve (without heat); if albumen is present a precipitate will immediately appear. This test does not precipitate peptones.—L. ii./82,823; L. i./83,191; B.M.J. i./83,308.

Iodomercurate of Potassium Solution, for volumetric estimation of albumen.

Iodide of Potassium	3·22 grammes.
Perchloride of Mercury ...	1·35 grammes.
Distilled water ...	to 100 c.c.

Confirmatory Solution.

Perchloride of Mercury ...	1 gramme.
Distilled water	100 c.c.

To 10 c.c. of urine add two drops of acetic acid, and the volumetric solution, drop by drop, stirring after each addition, counting the drops, until the urine is apparently unaffected by the test; now, after adding each drop of the test, put a drop of the urine being tested on a white porcelain dish and watch if a yellowish red colour appears on adding a minute drop of the Confirmatory Solution: as soon as it does, the albumen in the urine is exhausted. Each drop of test used (*minus* 3 for excess) represents so many 0·5 grammes of albumen per litre in the urine under examination. The test should be added from a pipette, delivering drops 5 centigrammes each.—L. ii./82, 614; L. i./83,139.

Peptone Test for Bile.

Peptone, in powder ...	30 grains.
Salicylic Acid	4 grains.
Acetic Acid	30 minims.
Distilled Water	8 ounces.

Dissolve and filter till bright. On adding 20 minims of urine containing bile salts to 60 minutes of this solution, an opalescence appears in proportion to the amount of bile constituents; it dissolves completely on adding acetic or citric acid, and diminishes, but does not disappear, on boiling.—L. i./85,741.

Picrid Acid Solution, Saturated Picric Acid.

The solution is carefully poured upon the urine contained in a test tube, and when this is held aslant an opalescent coagulated albuminous precipitate forms immediately between the yellow test solution at the top and the urine below, if albumen be present. It has also been suggested as a test for sugar in urine, as solution of glucose, if boiled with picric acid and solution of potash, reduces the yellow picric acid to deep red picramic acid, forming picramate of potassium, the depth of colour depending on the amount of sugar present.—L. ii./82,737,869,898,959,1002,1053,1095; L. i./83,161,454; B.M.J. i./83,505; B.M.J. ii./84,690, 1314; L. ii./84,1083.

The administration of alkaloids may cause urine to give a precipitate with picric acid, but this is redissolved on heating to the boiling point.—B.M.J. i./84,103,219.

Test Papers are prepared for testing urine for albumen impregnated with Peptone, Potassio-Mercuric Iodide, Potassium Ferrocyanide, Potassio-Mercuric Iodo-Cyanide, and Sodium Tungstate; and compound papers impregnated respectively with Picric Acid combined with Citric Acid, Sodium-Tungstate with Citric Acid, and Potassio-Mercuric Iodide with Citric Acid. (The last can be had for qualitative testing, and for quantitative estimation by a comparative opacity method.)—L. i./83,139,190; Pr. xxxii,91.

Nessler's Solution for **Ammonia.**

Iodide of Potassium ...	50 grammes.
Boiling Distilled Water ...	*q.s.*

Add to above a boiling hot concentrated aqueous solution of

Perchloride of Mercury ...	*q.s.*

Until the red precipitate formed is no longer redissolved on agitation. Decant, filter, and add

Caustic Potash	200 grammes.
In Distilled Water	*q.s.*

To dissolve it. When cold, dilute with

Distilled water to	1 litre.

On the addition of this test to ammonia or an ammonium salt in solution, it lets fall a brown precipitate of Dimercuric-ammonium Iodide.

Phenol-phthaleïn (*Off.*), a combination of phenol with a benzine derivative, in yellowish granular crystals. This forms

Tincture of Phenol-phthalein (*Off.*).

One part in proof spirit 500 parts by weight; is a colourless solution, but is turned to a purple red colour if added to a liquid containing an excess of alkali.

This, again, is immediately decolorised by an excess of acid. It is not suited for ammonia estimation.

Tropæoline OO, and Methyl-Orange (Sulpho-benzene-azo-dimethylamine) have also been suggested as tests for the presence of free acids. They form yellow solutions; the colour of the solution of the former is changed to crimson by acids, that of the latter to pink, but no change of colour is produced either by carbonic acid, acid carbonates, or solutions of metallic salts.—Chem. News, ii./81,288; i./83,123; P.J. 1882,273.

Sodium Hypobromite, Solution of, see p. 312.

Sonstadt's Solution for **Testing Gems.**

Red Iodide of Mercury	... 3720	grains.
Iodide of Potassium	... 2830	grains.
Distilled Water ...	... $15\frac{1}{2}$	drachms (fluid).

Dissolve and filter. Has Sp. Gr. 3. Used to test the specific gravity of gems. Quartz and Rock Crystal float in it, Diamond Sp. Gr. 3·5, Topaz Sp. Gr. about 3·5 and Zircon Sp. Gr. 4· to 4·75, sink in it. Phœnakite Sp. Gr. 3· is suspended in it. A solution having Sp. Gr. 3·36 may be made by using Iodide of Sodium in place of Iodide of Potassium.

THAPSIA.

The root of *Thapsia garganica*, an umbelliferous plant grown in Algeria (allied to the Silphion of the ancients); when exhausted with spirit yields a resin which is employed in the French Codex to form a rubefacient plaster, Emplastrum Thapsiæ; Fr. Sparadrap de Thapsia, Emplâtre Révulsive de Thapsia.

Theina.—See Caffeina, p. 101.

THEOBROMINE.

Dose.—1 to 5 grains.

An organic base existing in cacao seeds,—*Theobroma Cacao.* It is a white crystalline powder, sparingly soluble in water, alcohol and ether. It is allied to Caffeine, being chemically viewed as dimethyl-xanthine, and Caffeine as trimethyl-xanthine.—See Caffeine, p. 63.

THUJA.

Arbor Vitæ.

From the young shoots of *Thuja occidentalis* a tincture is prepared equal in strength to one of the dried tops in 10 of 20 O.P. spirit.

Dose.—2 to 5 minims.

Like savine, Thuja has an irritating action on the skin, and has been employed to remove warts and fungoid granulations from ulcers; internally for amenorrhœa, pulmonary catarrh, and worms.

THYMOL.

Thymol (*Off.*).

Dose.—½ to 2 grains or more, in pills with powdered soap and a trace of spirit, or in oily or aqueous solution.

A stearoptene contained in oil of thyme, *Thymus vulgaris*, but principally obtained from the oil of the fruit of *Ptychotis Ajowan.* In large transparent rhomboidal crystals melting at 111° F. and having the odour of thyme, an aromatic peppery taste, is caustic to the skin and very irritating to the mouth and mucous membrane generally. Soluble 1 in 800 of water, soluble in fats and oils and freely so in alchohol, ether, acetic acid, and caustic alkaline solutions. Thymol has been synthetically prepared from Cuminol, a constituent of oil of cumin. Thymol rubbed with an equal weight of Menthol forms an oily liquid (see Menthol); with 3 parts of Thymol and 2 Chloral Hydrate, equal parts of Thymol and Camphor, and equal parts of Thymol and Carbolic Acid, similar liquefactions take place.

Thymol is a powerful antiseptic and antiputrefactive; its preparations have been much used, like carbolic acid for surgical dressings.

Liquor Thymol.

One part of Thymol dissolved in 800 of warm water forms an agreeable antiseptic lotion and disinfectant for the sick room, suitable for spraying into the air or sprinkling on the floor.

Volckmann's Thymol Solution.

Thymol	1
Alcohol	20
Glycerine	20
Dissolve and add to	
Water	1000

Used as a spray and antiseptic lotion; does not produce eczema as carbolic lotion does.—Br. ii./79,xlviii.; Pr. xvii.203.

Soaps of Thymol are prepared for toilet use, containing about 1 in 1000: if used of this strength to the face the Thymol is irritating to the conjunctiva.

Spiritus Thymol.—*Dose*, 3 to 15 minims.

Thymol 1, Rectified Spirit, *q.s.* to 10; is convenient for dispensing, and for medicating the wool of antiseptic respirators.

Thymol Gauze, Carbasus Thymol.

Thymol	16
Spermaceti	500
Resin	50

Cotton gauze is impregnated with this mixture, liquefied by heat, so as to increase its weight 50 per cent. and contain 1 per cent. of Thymol.

Is used as an antiseptic dressing like carbolic gauze.

Pastillus Thymol is prepared, containing $\frac{1}{32}$ of a grain.—See p. 197.

Unguentum Thymol.

Is made 5 to 30 grains to the ounce of Vaseline, Petroleum Cerate, or Lard, the strength depending on the purpose for which it is applied. It is important the Thymol should be dissolved in the basis by the aid of heat, and not made by simple mixture, as particles of undissolved Thymol produce great irritation; 10 grains dissolved in an ounce of Vaseline applied to the skin keeps off gnats, mosquitoes, &c.

Vapor Thymol, T.H.

Thymol	6 grains.
Rectified Spirit	1 drachm.
Light Carbonate of Magnesia	3 grains.
Water to	1 ounce.

A teaspoonful to a pint of water at 140° F. for inhalation; useful in pharyngitis and laryngitis when associated with exanthemata.

References.

1 in 1000 of saccharine solution stops fermentation.—Pr.xx.278.

Physiological properties and use in diabetes and catarrh of the bladder in dose of $\frac{1}{2}$ to $1\frac{1}{2}$ grains.—Pr. xxii.52.

A powerful germicide and antiseptic. Renders sterile a cultivating liquid containing 1 part of Thymol in 2000. —B.M.J. i./78,2.

In skin diseases a stimulant ointment 5 to 20 grains to the ounce of vaseline or lard is useful in the later stage of eczema, and dry later stages of psoriasis, and as a parasiticide in those of a fungoid nature.—B.M.J. i./78,225; Br. i./78,199.

Use as an antiseptic in uterine affections.—B.M.J. i./78,535.

As an external antiseptic application to wounds.—T.M.G. i./78,227.

In ozœna, use as a gargle and nasal injection.—B.M.J. ii./79,692.

In chronic eczema and as a parasiticide 20 grains to an ounce of vaseline most useful; the solution diluted as a mouth wash removes the smell of tobacco, and the soap is recommended for dandriff and in nursery generally. —B.M.J. i./79,14.

Chemical properties and uses.—P.J. i./78,391.

Ringworm of the scalp, recommended and used with success, 1 part Thymol in 4 volumes of chloroform and 12 volumes of olive oil.—L. i./81,241.

In burns, these washed and sprayed with Thymol Solution 1 in 1000 and painted with Thymolised Linseed Oil 1 in 100, the latter when absorbed reapplied so as to prevent contact with the air, yielded most favourable results.—Pr. xxvii.268.

Thymol 1, Ether 10, and Spirit 5, or Thymol 1, Petroleum Oil 18; used as pigments in ringworm of the scalp, whilst acting as parasiticides they dissolve the fat, loosen the hairs, and thus help epilation. — B.M.J. i./82,901.

TONGA.

A special preparation recommended for the cure of neuralgia.

Dose.—1 to 2 drachms in water three times a day.

It is a dark brown liquid, the active portion of which is obtained from the scraped stem of *Epipremnum mirabile*, or *Rhaphidophora vitensis*, an araceous creeper, native of the Fiji Islands; the bark of *Premna Taitensis* one of the *Verbenaceæ*, is also used in its manufacture. — P.J.1880, 770,849,889; L.i./81,84; B.M.J. ii./81,171.

Use in neuralgia, does not affect the pupil or produce toxic symptoms.—L. i./80,360,445,835.

The writer has prepared from *Arum maculatum*

Succus Ari.

Dose.—1 drachm.

This, a medical friend informed him, relieved an obstinate case of neuralgia in which Tonga was a useful but expensive medicine.—B.M.J. i./81,908.

TRAGACANTHA.

Tragacanth (*Off.*).

Dose.—2 to 10 grains or more.

Preparations.

Glycerinum Tragacanthæ.

	T.H.	(*Off.*)
Tragacanth, in powder...	120 grains ...	110 grains.
Glycerine	1 ounce ...	1 ounce.
Water	3 drachms	74 grains.

Mix and heat for 10 minutes in a water bath. Without heat, *off.*

Forms a useful pill excipient.—See p. 281.

Mucilago Tragacanthæ (*Off.*).

Dose.—1 drachm to 1 ounce, or more.

Improved formula suggested by the writer.—P.J. 1870,520.

Rectified Spirit	90 minims.

Put in a 20 ounce dry bottle and add

Tragacanth, in powder ...	60 grains.

Shake till evenly moistened and add

Distilled Water	10 ounces.

Shake again quickly to make a uniform mucilage. This keeps much better than mucilage of acacia—does not quickly turn sour, and is much more viscous. One part to 3 of aqueous fluid will suspend heavy insoluble powders.

Pulvis Tragacanthæ Compositus (*Off.*).

Tragacanth 1, Gum Acacia 1, Starch 1, and Sugar 3.

Dose.—10 to 60 grains. Is used as last preparation, 10 grains to 1 oz., but mixtures containing it do not keep so well.

Traumaticin.—See p. 128.

TRIMETHYLAMINA.

Trimethylamine.

Syns.—SECALIN; PROPYLAMINE (?).

Dose of the solution.—20 to 60 minims every 2 to 4 hours.

A solution of this compound ammonia, containing commercially from 10 to 20 per cent. of it dissolved in water was, under the incorrect name of Propylamine, first employed medicinally for the cure of articular rheumatism by Awenarius, of St. Petersburg, in 1854. He reported 250 cases, and affirmed it dissipated the fever and pain of the acute disease in a day or two. Medicinal Trimethylamine is obtained principally by distilling herring brine or stale fish with lime, and purifying the distillate. It was first obtained by the action of a caustic alkali on ergot, and named Secalin. It has been abstracted from the leaves of common beet and stinking goosefoot, the flowers of hawthorn and arnica, and by heating codeine with potassa, as well as from guano and some other animal substances. The commercial preparation (20 per cent.) is alkaline, colourless, has a strong, herring-brine odour, and is miscible with water. Its taste may be disguised by sweetened peppermint water or syrup of orange-peel. The salt,

Trimethylaminæ Hydrochloras,

Dose.—2 to 3 grains, 3 to 5 times a day,

Is obtained by neutralising the solution with hydrochloric acid and evaporating to crystallization. It is in deliquescent prismatic crystals, very soluble in water, has a slight fishy odour, and a pungent, saline taste; may be given in solution, but more agreeably in a pill with powdered althæa root and glycerine of tragacanth, and covered with sandarach solution.

In acute rheumatism, given with excellent effects, especially when begun early.—Pr. x.385.

Results of 32 hospital cases; it is a cardio-vascular sedative, limiting nutrition, and promoting expectoration, useful in acute attacks of rheumatism.—Pr xxiii.365

Acute articular rheumatism, 7 cases quickly cured by it.—B. F. M. Ch. Rev. i./73,497.

Physiological experiments, it increases functions of the cord and accelerates the heart's action; poisonous doses kill by cardio-pulmonary asphyxia.—M.T.G. ii./74,240.

Employed in 14 cases of acute rheumatism with success, also of value as a liniment; 1 to 3 of glycerine for rheumatic pains.—M.R. 1875,25.

Four cases of rheumatism and gout treated by it.—Br. i./75,46.

Editorial note on 28 cases of acute rheumatism treated by gramme doses of solution every 2 hours, results good.—L. i./75,67.

URANII NITRAS.

Nitrate of Uranium.

Dose.—$\frac{1}{2}$ to 5 grains.

Is in large lemon-yellow slightly efflorescent prismatic crystals. It is soluble in half its weight of water, and has an astringent styptic taste. Its solution, 10 grains to an ounce, is used as a throat spray, and internally it has been given with good effect in diabetes in dose of 1 to 5 grains.

VERATRI VIRIDIS RHIZOMA.

Green Hellebore Rhizome (*Off.*).

Dose, in powder.—1 to 5 grains.

The dried rhizome and rootlets of *Veratrum viride*, imported from the United States. Its powder excites sneezing, and it contains the alkaloids Jervine, Veratrine. and Veratroidine. The rhizome of *V. album* and a Wine prepared from it were official in P.L. 1851. It possesses similar properties to *V. viride*. They are recommended as cardiac, arterial, and nervous sedatives. They are said not to be narcotic, but they lower the pulse, respirations, and temperature of the body. Acts on the heart as a powerful cardiac poison analogous to digitalis, but is much more rapid in its action; does not lower the temperature in health.—Pr. i./70,211.

Tinctura Veratri Viridis.

1 in 5 of rectified spirit.

Dose.—5 to 20 minims.

VERATRINA.

Veratrine (*Off.*).

Dose.—$\frac{1}{70}$ to $\frac{1}{16}$ grain, in a pill carefully triturated with sugar of milk and glycerine of tragacanth. An alkaloid, not quite pure, obtained from the seeds of *Asagræa officinalis*—Sabadilla or Cevadilla seeds; in white or greyish white pulverulent masses; it powerfully irritates the nostrils and excites sneezing; taste bitter and acrid. Nearly insoluble in water; soluble 1 in 11 rectified spirit; 1 in 6 ether; readily and almost completely soluble in diluted acids (a little resin is left). It poisonous, but has been used as an anti-pyretic and arterial sedative in fevers and acute inflammations—resembles Aconitine in its general effects—irritates mucous membranes, causes sneezing, pricking and twitching of the skin, given in large doses it causes vomiting and purging; sometimes given for neuralgia, spasm, rheumatism and gout, but its principal use is externally in the form of ointment for the relief of neuralgic pains.

Oleatum Veratrinæ, U.S.

Veratrine	2
Oleic Acid	100

Dissolve. Useful for neuralgia.

Unguentum Veratrinæ (*Off.*).

Veratrine	8 grains.
Olive Oil	1 drachm.

Rub together.

Hard Paraffin	¼ ounce.
Soft Paraffin	¾ ounce.

Melt, and when cooling add the mixture of Veratrine and oil, and stir till cold. It excites a sensation of warmth and pricking, followed by coldness; if applied for some time, it will produce a red rash. Like aconitine ointment, than which it is much cheaper, it is useful for facial neuralgia. The ointment is often made stronger, 20 to 40 grains to the ounce, and then it proves very useful in the treatment of sciatica, rubbed into the painful part for 20 to 30 minutes, 2 or 3 times a day, also useful in the neuralgic pain consequent on shingles.

References.

In neuralgia and nervous diseases $\frac{1}{10}$ grain twice a day does good, also relieves palsy from cold.—L. i./48,501.

Physiological action.—M.T.G. ii./60,295, and R.

Relieves toothache applied locally.—L. i./62,54.

Researches on the action of Veratrine on man and other animals, hypodermic injection painful on man, lowers the tension of the circulatory system and makes pulse irregular, feeble, and intermittent, tried for pneumonia.—Rank. i./70,143.

Physiological effects.—Rank. ii./72,125,126.

Alcoholic tremor, and that of sclerosis were relieved by $\frac{1}{130}$ grain doses four times a day.—L. ii./83, 118.

Internally and externally, recommended for pruritus.—M.T.G. i./84,509; Pr. xxxiii.61.

VERBASCUM THAPSUS.

Great Mullein.

This indigenous scrophulariaceous plant is much used as a household remedy on the Continent, and a sweetened decoction in milk, 1 in 5 of fresh leaves or about 1 in 40 of dried, is employed in Ireland in incipient phthisis for its weight increasing and curative power.—P.J. 1883, 309; B.M.J. ii./84,907,1013; L. i./85,1051.

Smoking the dried leaves controlled racking cough in a case of phthisis.—B.M.J. i./84,664.

Tinctura Verbasci.

Dose.—20 to 60 minims. 1 in 8 of proof spirit.

ZINCI BROMIDUM.

Bromide of Zinc, U.S.

Dose.—3 to 10 grains, in water well diluted.

A white granular powder, very deliquescent, odorless, having a sharp saline and metallic taste, and a neutral reaction, very soluble in water and alcohol. As both bromides and zinc salts have been used with success in epilepsy, this salt has been given with the intent of combining the action of both.

Reference.

Bromide of Zinc is borne badly, although Zinc unquestionably deserves some of the repute it has enjoyed as an anti-epileptic.—B.M.J. i./80,548.

Diminishes sensation and causes somnolence.—L. i./85,722.

ZINCI CHLORIDUM.

Chloride of Zinc (*Off.*).

Syn.—BUTTER OF ZINC.

Preparations.

Collodium Zinci Chloridi.—*See* p. 155.

Liquor Zinci Chloridi (*Off.*).

Four minims of this solution = 3 grains of solid Chloride of Zinc. On diluting this Liquor, or making a solution of the salt, with water, generally a white precipitate (Basic Oxychloride) is formed, which may be redissolved by adding a trace of hydrochloric acid.

Chloride of Zinc is a powerful caustic, antiseptic and antiputrescent. The Liquor, or an impure solution known as Sir W. Burnett's Disinfecting Fluid, is a powerful deodorising antiseptic solution; it is odorless (but *very poisonous*) and specially useful for disinfecting the utensils, &c., in the sick-room of fever patients; it quickly permeates or disintegrates all organic matter *with which it comes in contact.*

Caustica Zinci Chloridi, R.O.H.

Chloride of Zinc, in powder	equal parts.
Oxide of Zinc	

If carefully kept in a stoppered bottle, this powder can be insufflated into any cavity requiring it.

Pasta Zinci Chloridi (Mid. Hosp.)

Chloride of Zinc ...	...	16 ounces.
Opium, in Powder	...	1½ ,,
Hydrochloric Acid	...	6 drachms.
Boiling Water ...	to	1 pint.

Macerate the Opium in 12 ounces of the water for 12 hours, add the acid and filter, dissolve the Chloride of Zinc in the filtered liquid, and add water *q.s.* to produce 1 pint.

To above solution...	...	1 ounce.
Wheaten Flour ...	...	120 grains.

Mix and heat in a water bath until of a proper consistence. It is used as a caustic for cancerous sores, spread on lint, one or more layers being used. Weaker and firmer applications containing more flour are also used. Chloride of Zinc pounded with an equal weight of oil of theobroma is sometimes used, and may be formed into darts, spear or rod-shaped, for insertion into wounds or sores.

Solutio Zinci Chloridi Antiseptica.

Chloride of Zinc ...	...	40 grains.
Distilled water ...	...	1 ounce.

This solution produces such an antiseptic effect upon the tissues of a recent wound, that, as the result of a single application, the cut surface, though not presenting any visible slough, is rendered incapable of putrefaction for 2 or 3 days, notwithstanding its exposure to septic influence. It is particularly useful in tongue cases, after the removal of tumours of the jaws, or operations about the anus, and after amputations or excisions in parts affected with putrid sinuses; it is freely applied on a piece of lint to all textures including bones, and injected into sinuses.—B.M.J. ii./68,53.

Chloride of Zinc has the property of rendering a wound antiseptic which has already become septic. An 8 per cent. solution is more energetic than a 5 per cent. solution of carbolic acid, and is useful in checking parenchymatous hæmorrhage after operations. — M.R. 1882,405.

Lotio Rubra, U.C.H.

Sulphate of Zinc	2 grains.
Compound Tincture of Lavender	15 minims.
Water	to 1 ounce.

Sulphate of Zinc is moulded into points for intra-uterine medication. Points of equal parts sulphate of zinc and alum, and of sulphate of copper are also made.

The two following salts of zinc have been used for epilepsy.

Zinci Citras.

Dose.—3 to 12 grains or more.

An amorphous white powder with a sharp metallic taste, not perfectly soluble in water, as it is a basic salt.

Zinci Lactas.

Dose.—3 to 30 grains, increased as it can be borne.

It is generally met with in white crystalline crusts, with a sharp metallic taste, freely soluble in water but insoluble in alcohol. This Salt least deranges the stomach, and has been much used in France for epilepsy.

Calamina Præparata.—See p. 226.

Cremor Zinci.—See p. 264.

Oleatum Zinci.—See p. 253.

Zinci Oxidum. See p. 227.

Zinci Phosphidum.—See p. 272.

Zinci Sulphocarbolas.—See p. 44.

Zinci Valerianas. (*Off.*).

Dose.—1 to 3 grains in a pill with mucilage of acacia.

The Crystallized Salt is preferred, and pills containing 3 grains in each are generally kept prepared.

SECONDARY LIST OF DRUGS.

OF SOME WE HAVE HAD LITTLE OR NO EXPERIENCE, OTHERS ARE OLD REMEDIES RECENTLY RESUSCITATED.

Aconitum Ferox.—Root, called *Bish* or *Bikh* in India, Nepaul Aconite by London druggists. Contains much Aconitine (Pseud-Aconitine of Flückiger) (see p. 64) of a virulently poisonous nature. It comes from the Himalayas, probably mixed with the root of other species of aconite, and is in bolder roots than the aconite root imported from Germany. Therapeutically, its action resembles that of *A. Napellus*, but is more diuretic and less antipyretic and diaphoretic. Internally, has relieved many cases of neuralgia and acute gout, and forms a valuable liniment for chilblains, &c.—B.M.J. ii./84,1276; L. i./85,236. Tincture, 1 in 8 of rectified spirit. *Dose*, 1 minim hourly.

Aconitum Fischeri.—Produces Japanese Aconite Root, of which much has at times been imported. It is very pungent, and yields the alkaloid Japacouitine. *A. Japonicum*, Thunberg, with yellowish white flowers, has been identified as a variety of *A. Lycoctonum*. In the root of the European variety of the latter two alkaloids have been found, Lycaconitine and Myoctonine, both of which possess poisonous properties like Curare.—P.J. 1884,82,104; 1885,892. Botany of.—P.J. 1881, 1021,1041.

Aconitum Heterophyllum.—Root, known as *Atis* or *Atees* in India, is neither poisonous nor antipyretic, but is tonic, and possibly aphrodisiac in action. It contains a large quantity of starch. *Dose*, in powder, 5 to 20 grains; of tincture 1 in 8 of rectified spirit, 10 to 60 minims.

Adonis vernalis.—Leaves and stalks contain a glucoside Adonidin. They resemble Digitalis in their action, but are said not to be cumulative. *Dose*, in powder, 3 to 6 grains; of infusion 1 in 40, 4 drachms.

Agar-Agar.—Japanese Isinglass. Is in membrane-like strips, consisting of the dried jelly of *Gelidium corneum*, a seaweed. Another variety comes from Borneo. Used for making jellies for invalids, &c., and as a cultivating nidus for germs; also for finishing calicoes, silks, &c.

Alstonia constricta.—Bark is used in Australia as a febrifuge. *Dose*, in powder, 5 grains. A crystalline alkaloid, Alstonine or Chlorogenine, has been isolated from it. Tincture, 1 in 10 proof spirit. *Dose*, ½ to 2 drachms.

Alstonia scholaris.—Dita Bark, from India and the Philipine Islands. Contains a crystalline alkaloid, Ditaine, and the milky juice of the tree forms a substance resembling gutta percha. Tincture, 1 in 10 proof spirit. *Dose*, 1 to 2 drachms.

Arbutin.—A crystallized glucoside obtained from the leaves of *Arctostaphylos Uva Ursi* and other ericaceous plants. It is given for chronic cystitis and vesical catarrh, in dose of 15 grains with sugar; is not poisonous. It is split up in the system, hydroquinone being produced.—M.R. 1885,104.

Asclepias Cornuti (A. SYRIACA).—Is diaphoretic and diuretic. Tincture, 1 in 10. *Dose*, 5 to 40 minims.

Asclepias incarnata.—White Indian Hemp rhizome. Is a speedy, potent, and reliable diuretic.—Pr. xxiii.141. Tincture, 1 in 10. *Dose*, 5 to 40 minims.

Asclepias tuberosa.—Pleurisy Root. Is expectorant and diuretic. Tincture, 1 in 10. *Dose*, 5 to 40 minims.

Blatta orientalis.—Cockroach. Is an old Russian remedy for dropsy lately brought into notice. *Dose*, 2 to 8 grains, in powder.

Boldoa fragrans (*Peumus Boldus*).—The leaves, from Chili and Bolivia, resemble those of Sweet Gale (*Myrica gale*), but are more aromatic. Used in dyspepsia, liver affections, rheumatism, and as a diuretic for atony of the bladder. Boldin, a glucoside, has hypnotic properties, and said also to have local anæsthetic properties like cocaine. Tincture of Boldo, 1 in 5 rectified spirit. *Dose*, 10 to 20 minims.

Bonduc Seeds.—From *Cæsalpinia Bonducella* are grey, and *C. Bonduc* are yellowish. In Pharmacopœia of India as a bitter tonic and antiperiodic. *Dose*, in powder, 10 to 15 grains. The powder, deprived of shell, mixed with an equal quantity of black pepper, forms Pulvis Bonducellæ Compositus. *Dose*, 15 to 30 grains.

Chekan.—The leaves of *Myrtus Chekan*. Are aromatic and expectorant; are used in chronic coughs and bronchitis. *Dose*, of fluid extract, ½ to 3 drachms.

Condurango, P. G.—The Bark of *Gonolobus Condurango*, from Peru. Is bitter and acrid. Used as an alterative, and was a supposed specific for cancer and syphilis. Note on physiological action.—L. i./84,812.

Cornus Florida, U. S.—Inner Bark of Root. It is bitter, tonic, and stomachic. *Dose*, in powder, 20 to 60 grains. A fluid extract is made, 1=1 of bark.

Crotalus.—A solution of the pure venom of the rattlesnake, *Crotalus horridus*, 1 in 1,000, 3 drops every three hours. Used in malignant scarlet fever.—L. ii./83,51; P.J. 1883,62.

Drosera rotundifolia.—The leaves of Sundew. Have been recommended for chronic bronchitis, asthma, whooping-cough, and to ease the cough of phthisis. Tincture =1 in 10 of proof spirit. *Dose*, 5 to 10 minims.

Eupatorium perfoliatum, U.S.—Boneset, Thoroughwort. The leaves and flowering tops contain a volatile oil and a glucoside, Eupatorin; is tonic and diaphoretic. Warm infusion is used like camomile tea as an emetic. Given for ague, dyspepsia, and debility. In large doses is cathartic, and has been given to expel tænia. *Dose*, in powder, 10 to 60 grains; or 10 to 60 minims of fluid extract, U.S.

Galium aparine.—The plant Cleaver's or Goose Grass. Is acid, astringent, and diuretic. Has been used in dropsy, jaundice, scrofulous scaly eruptions, epilepsy, and obesity; and, externally, a poultice of the fresh plant beat into a pulp and the juice have been applied to promote healthy granulation in cancerous sores, and as a styptic for bleeding wounds. Succus Galii, *dose*, 1 to 2 drachms; and Extractum Galii, 5 to 20 grains. —B.M.J. i./83,1173; ii./83,14.

Geoffroya inermis (*Andira inermis*).—Bark of Cabbage Tree, Worm-bark Tree of tropical America. Is bitter, astringent, febrifuge, and vermifuge in dose of 20 to 30 grains; larger doses are emetic, purgative, and narcotic.

Gouania Domingensis. — Jamaica Chew stick. Root contains Saponine; in powder is used as a dentifrice and to make mouth lotions; root stem also used as a tooth brush in U.S.A., and chewed after meals as a sialogogue to assist digestion.

Henna.—The dried leaves powdered of *Lawsonia inermis*, *L. spinosa*, and *L. alba*. Are used in Egypt for toilet purposes as a cosmetic dye.

Hydrocotyle Asiatica.—This umbelliferous herb is used in India for specific skin diseases, scaly eruptions, and ozœna, as an alterative and diuretic, in 4 to 10 grain doses internally; is added to lard as an ointment, also to poultices, and used as snuff in ozœna. Contains 15 per cent. of a volatile oil named Vellarine.—L. i./85,444.

Hymenodictyon excelsum.—Inner bark is in Indian Pharmacopœia. Is astringent and bitter like cinchona, and is given as a tonic and febrifuge. Contains the alkaloid Hymenodictyonine, and Æsculin.—P.J. 1883,311; 1884,195.

Jacaranda lancifoliata.—A Columbian plant. The fluid extract of this, known as Salud, has been recommended for syphilis, gonorrhœa, and gleet. *J. procera*, *J. tomentosa*, and other species are known by the name of Caroba in Brazil, and are said to have similar properties.—P.J. 1875,905; B.M.J. i./85,327.

Jatropha Curcas (*Curcas purgans*). — Physic Nut, in Pharmacopœia of India. Yields about 30 per cent. of a fixed purgative oil, which has an almond-like taste; 12 to 15 drops have the same effect as an ounce of castor oil; externally, it is a stimulant, and in the East is applied locally to increase the secretion of milk.

Kava-Kava.—Root of *Piper methysticum*, imported from the Polynesian Islands. Is used by natives as a sialogogue and to make a fermented drink. Contains an essential oil, 2 per cent. of an acrid resin, and about 1 per cent. of a neutral crystalline principle, Kavalin or Methysticin, allied to Piperine. Is a bitter tonic, with agreeable taste, stimulates the nervous system, and is diuretic. Has been found useful for gonorrhœa and gout. An infusion of the root = 1 in 320. *Dose*, half a pint; of fluid extract, 15 to 60 minims.

Koromiko.—These herbs, *Veronica Salicifolia* and *V. parviflora*, imported from New Zealand, are used there and in China as a remedy for chronic dysentery and diarrhœa. Tincture, 1 in 5 of proof spirit. *Dose*, ½ to 1 drachm.

Lachnanthes tinctoria.—Spirit Weed, Red Root. A tincture = 1 in 10 of this United States plant; is used to check the cough in phthisis. *Dose*, 1 to 10 minims.

Lycoperdon giganteum.—Puff Ball. This forms a soft and comfortable surgical dressing. The dusty powder is a powerful hæmostatic.—Whitla.

Manaca.—Root of *Franciscea uniflora*, from Brazil and equatorial America. Is purgative and diuretic; much recommended for syphilis and rheumatism.

Maidis Stigmata.—The glistening thread-like stigmata of nearly ripe Maize fruit. Are demulcent and diuretic. Used in acute and chronic affections of the kidneys and bladder, *e.g.*, catarrh of, cystitis, nocturnal incontinence of urine, and cardiac dropsy. Useful in renal catarrh and colic.—M.R. 1885,103. Fluid extract, *dose*, 1 drachm; of extract, 20 grains.

Maidis Ustilago.—Maize Ergot, Corn Ergot. Is used in parturition in place of ergot. Is said to increase the force without increasing the duration of uterine contractions. *Dose*, 15 to 60 grains.

Mandragorine.—A crystallised alkaloid, obtained from Mandrake root, *Mandragora officinalis*. A solution of the sulphate is a mydriatic. The plant itself was, by the ancients, considered a narcotic.—P.J. 1885,1067; L. ii./85,87.

Pharbitis Nil.—Seeds. *Syn.*—Kaladana in Pharmacopœia of India. Are official to produce Pharbitisin, a resin allied to Resin of Jalap, given in dose of 2 to 8 grains as a purgative.

Phellandrium aquaticum.—Fruit of Water-Fennel. Is a stimulant, diaphoretic, and expectorant; useful in bronchitis and phthisis.

Sarracenia purpurea.—Pitcher Plant. This herb is considered tonic and diuretic; at one time used as a specific for small-pox.

Scopolia Japonica.—The root of this, known in commerce as Japanese Belladonna, yields an alkaloid, Scopoline, which is a mydriatic, and produces as much dilatation as atropine in half the time, and effects last longer.—L. ii./84,558.

Sethia acuminata.—Is a vermifuge, especially for round worm; useful for children, as its taste is not disagreeable. Fluid extract 2 = 1 of leaves. *Dose*, 20 to 40 minims.—P.J. 1882,818. Has also narcotic properties.

Simulo.—Fruit of *Capparis coriacea*, from Peru. Its powder, 45 grammes in 500 grammes of sweet wine, of which a wineglassful was taken every night and morning, cured a case (Dr. Larrea, who narrates it) of epilepsy after he had 14 fits, preceded by a distinct aura. He has used it much in nervous diseases, hysteria, as well as epilepsy.—L. i./85,722; B.M.J. i./85,1184; P.J. 1885,890.

Strophanthus hispidus (*S. Kombé*, Oliver).—From the seeds of this apocynaceous plant is prepared the Kombé arrow poison, which is used also in various parts of Africa, in the Manganja country near the Zambesi, in Guinea, in Senegambia, and in the Gaboon district, where it is called Inée, Onaye, or Onage. Two crystalline principles have been isolated from the seed, Strophanthin and Inein. In its physiological and therapeutical action, strophanthin is allied to digitalin. Injected under the skin of a frog, it stops the action of the heart, with the ventricle pale and contracted, whilst the auricles are dark and distended; it seems to act directly on the cardiac muscular fibre. It is a cardiac tonic and diuretic. *Dose, hypodermically*, $\frac{1}{120}$ to $\frac{1}{60}$ grain.—P.J. 1873,523; 1877,526; B.M.J. ii./85,263; L. ii./85,309.

Tayuya.—"Leroy vegetal." Root of *Trianosperma ficifolia*, a Brazilian plant allied to *Bryonia alba*. Is a drastic purgative and emetic, excitant to the lymphatic system, and an active depurative. Tincture, 1 in 4 proof spirit. *Dose*, 6 to 15 minims, increased. Is used for tertiary syphilis and dropsy. Active principle, Tayuyina (Trianospermina of Peckolt), is a drastic purgative.—P.J. 1880,667; is ascribed to *Dermophylla pendatica*.—L. ii./81,891.

Triticum repens, U.S.—Underground stems (stolons) o Couch-grass, Dog-grass, or Quitch. Is diuretic and emollient. Used in bladder and kidney affections. Decoction, 2 ounces to produce 1 pint. *Dose*; 1 to 5 ounces.

Urethane.—*Syn.*—Ethyl Carbamate. Is in white crystals, easily soluble in water, tasting like nitre, inodorous. Lately used as a hypnotic; produces normal sleep. Especially suitable for children, cases of delirium tremens, and in acute mania. *Dose*, 16 grains.—L. ii./85,647.

Urtica dioica.—Stinging Nettle. An alcoholic fluid extract prepared from entire young plant gathered in the spring. Is recommended as a local hæmostatic. Is applied on cotton wool for epistaxis, for hæmorrhage after tooth-extraction, &c.—L. ii./85,647.

Viburnum prunifolium, U.S.—Bark of Black Haws. Is an astringent and bitter nervine tonic; has a good repute for preventing abortion, and is used for dysmenorrhœa. Extract, *dose*, 2 to 10 grains.—L. ii./85,36; Pr. xxxiv.50. The bark of *V. opulus* (Cramp Bark) is also used in the States as an antispasmodic, and for relaxing cramp of all kinds; in hysteria, during pregnancy. A combination with extract of malt is sold as Malto-Viburnin. *Dose*, 1 to 4 drachms.

Vinca major.—Great Periwinkle Herb. Is astringent, and has been used for menorrhagia. Infusion, 1 in 10. *Dose*, a wineglassful frequently. Liquid extract, 1½ drachms.

Viola tricolor, U.S.—Flowering plant of Wild Pansy. Is supposed to contain a little Violin, found in *Viola odorata*, and resembling Emetin in action. Is used externally as an ointment, and a poultice. *Dose*, 10 to 60 grains in infusion.

Viscum album.—Mistletoe. The berries are said to be emetic and purgative. The plant contains Viscin, a kind of birdlime. Has been used for epilepsy and hysteria. *Dose*, in powder, 10 to 60 grains.

Yerba Santa (*Eriodictyon glutinosum* or *E. Californicum*).—Leaves are aromatic and sweetish, often agglutinated together; they are stimulant to mucous membranes of the bronchial tubes. Used for bronchitis, phthisis, and other catarrhal affections. Fluid extract, 10 to 40 minims. Is sold combined with extract of malt, as Malto-Yerbine. *Dose*, 1 to 4 drachms.

APPENDIX.

I.

ANTISEPTIC APPLICATIONS AND SURGICAL DRESSINGS.

	PAGE
Bandages,	
Carbolic Gauze, 6 yd. rolls, 5 in. wide	38
Domette (flannel) 6 yd. rolls, 3 in.	
Elastic, Circular Stocking, 2½ in., 3 in., and 3½ in.	
Elastic, India Rubber Webbing, 1 in., 2 in., and 3 in.	
Eucalyptus Gauze, 6 yd. rolls, 5 in.	177
Selvedge, or Fast Edge, 6 yd. rolls, 2 in., 2½ in., and 3 in.	
Silicated	314
Water Dressing, plain 6 yd. rolls, 2 in., 2½ in., 3 in. 4 in.	
Catgut, Carbolised, in bottles with Carbolic Oil, Nos. 0, 1, 2, 3	39
,, Chromic, Nos. 0, 1, 2, and 3	46
Drainage Tubes. India Rubber, perforated, of various dimensions	
Gauze, Carbolic Acid, 6 yd. pieces	38
,, Eucalyptus, 6 yd. pieces	177
,, Thymol, 6 yd. pieces	328
,, Iodoform, 20 per cent. 6 yd. pieces	213
Jaconet, Pink Macintosh or Hat Lining	40
Lint, Surgeon's Nos. 0, 1, 2, and 3 (finest)	
,, Boracic, 1 lb. packages, 2 oz. and 1 oz. boxes	33
,, Iodoform, 10 per cent.	
,, Marine, 1 lb. tins	256
Lotion, Boracic Acid, saturated	34
,, Carbolic Acid, 1 in 20	39
Oil, Carbolised, 1 in 10, or 20	39
,, ,, for Catheters	39
Oiled Silk Protective	40

	PAGE
Plasters, Spread,	
Adhesive, on unglazed Calico, yard rolls	
,, Union, ,, ,,	
,, Moleskin, ,, ,,	
,, Tapes, Unglazed Calico, Holland Silk, and Waterproof	
India Rubber Adhesive, 7 in. wide, yard rolls	
,, ,, ,, ,, ,, 5 yd. rolls	
,, ,, ,, Porous, yard rolls	
,, ,, ,, Twilled Linen, yard rolls	
Isinglass on Muslin, 7 in. wide, yard rolls	
,, ,, 11 in. wide, 5 yard rolls	
,, Silk, Flesh, White, and Black, yd. rolls	
,, Gold Beaters' Skin, 6 in. wide yd. rolls	
Zinc Ointment (Unna's), in 1 metre rolls	
Sponges, Carbolised	
Silk Ligatures, Carbolised, reels	
,, Salicylic ½ lb. boxes	
Tenax, Carded Oakum, 1 lb. packages	286
Sublimate Wood Wool, for wound dressing. (*Fine wood fibre impregnated with ½ per cent. of Perchloride of Mercury*).—L.ii./83,908.	203
Tow, Flax, (about) ½ lb. rolls	
,, ,, Carbolised, ½ lb. packages	39
,, Jute, (about) 1 lb rolls	
,, ,, Salicylic, ½ lb. packages	
Wool, Prepared Cotton, finest, 1 lb. packages, 1 oz., 2 oz, and 4 oz. boxes	199
,, Prepared Cotton, second, 1 lb. packages	199
,, Absorbent, 1 lb. ,, 1 oz., 2 oz., and 4 oz. boxes	199
,, Absorbent Gauze and Cotton Wool Tissue, 1lb. packages	199
,, ,, Balls (in place of sponges)	199
,, Boracic Acid, 1 lb. packages	
,, Carbolised, 1 lb. packages	39
,, Iodoform, 10, 4, and 50 per cent., ½ lb. and ¼ lb. packages	214
,, Salicylic Acid, 4 per cent., 1 lb. and ½ lb. packages	59

II.

HISTOLOGICAL PREPARATIONS FOR STAINING, HARDENING AND MOUNTING MICROSCOPIC OBJECTS.

Acid, Acetic.
- ,, Carbolic. Puriss. No 1.
- ,, Chromic.
- ,, Osmic. Gramme tubes.
  - ,, ,, Solution 1 per cent.
- ,, Picric.
- ,, Rosolic.

Alcannin.
Alcohol Absolute, S.G. 795.
Alizarine.
Ammonium Chromate.
- ,, Bichromate.

Aniline, Liquid (*Phenylamine*).

Aniline Colours.
- Black, Blue.
  - ,, Raven.
- Bleu de Lyon.
  - ,, ,, Hofmann's.
- Blue, China.
  - ,, Methylene.
  - ,, Nicholson's.
  - ,, Pure Soluble.
- Brown, Bismark.
- Chrysoidine.
  - ,, Saturated Solution.
- Citronine, Soluble in Spirit.
- Eosine.
- Fuchsine (Monohydrochlorate of Rosaniline).
  - ,, and Aniline, for Bacilli.
  - ,, Methylene Blue and Aniline (for use without Nitric Acid).
- Green, Acid.
  - ,, Iodine.
  - ,, Malachite.
  - ,, Methyl.
- Magenta (Roseine Fuchsine).
  - ,, and Aniline Solution, for Bacilli.

- Aniline Colours *(continued)*.
  - Nigrosine.
  - Orange.
    - ,, Methyl.
  - Phloxine.
  - Phosphine.
  - Poncean.
  - Primrose.
  - Purple, Spiller's.
  - Rosaniline, Acetate.
    - ,, Monohydrochlorate.
    - ,, Nitrate.
  - Rubin, S.
  - Saffranine.
  - Scarlet, Atlas.
  - Sloeline (Blue Black).
  - Tropæoline OO.
  - Vesuvine.
  - Violet Methyl, Dahlia.
    - ,, ,, Gentian.
    - ,, ,, 5 B.
    - ,, ,, 6 B.
- Asphalt Solution.
- Benzol, Genuine Purified.
- Cacao Butter.
- Canadian Balsam.
  - ,, ,, dried and dissolved in Benzol.
  - ,, ,, ,, ,, Chloroform.
- Carmine.
  - ,, Solution.
- Celloidin (purified Pyroxylin).
- Chloroform.
- Collodion, double strength.
- Creasote, Anhydrous.
  - ,, and Shellac.
- Dammar Varnish.
- Erlich-Weigert's Double Staining Fluid.
- Glycerine, pure distilled.
- Glycerine Jelly.
- Gold Chloride.
- Hæmatoxylin.
- Hollis's Glue.
- Indigo-Carmine, in Powder.
- Kleinenberg's Hæmatoxylin Solution (Alcoholic).
- Logwood Staining Solution (Aqueous).
  - ,, Extract, pure.
- Mayer's Solution.

Mounting Solution (Farrant's).
Oil of Cloves, pale.
,, Turpentine, Rectified.
Pasteur's Fluid, with or without Sugar.
Peptone.
Phloroglucin.
Picrocarmine Solution.
Potassium Chromate.
,, Bichromate.
Prussian Blue, Soluble.
Purpurine.
Schultz's Solution.
Silver Nitrate, Cryst.
Zinc Cement.

III.

GAUBIUS' TABLE

Of Proportion of Dose according to Age.

For an adult, suppose the dose to be	1	or	60 grains,
Under 1 year will require	$\frac{1}{12}$	,,	5 ,,
,, 2 ,, ,, ,,	$\frac{1}{8}$	,,	8 ,,
,, 3 ,, ,, ,,	$\frac{1}{6}$	,,	10 ,,
,, 4 ,, ,, ,,	$\frac{1}{4}$	,,	15 ,,
,, 7 ,, ,, ,,	$\frac{1}{3}$	,,	20 ,,
,, 14 ,, ,, ,,	$\frac{1}{2}$	,,	30 ,,
,, 20 ,, ,, ,,	$\frac{2}{3}$	,,	40 ,,
21 to 60, the full dose, or	1	,,	60 ,,

Above this age, an inverse gradation must be observed.

Another rule is, for children under 12, add 12 to the age, and divide the age by the amount thus obtained; thus for 8 years $\frac{8}{8 + 12} = \frac{2}{5}$ of adult dose.

INDEX

AND

POSOLOGICAL TABLE.

THIS index includes not only the name and adult dose of each drug and preparation described in the foregoing pages, but also those of official drugs and preparations to which a dose is assigned by the British Pharmacopœia.

The official names are printed in italics. Where no number of the page is inserted, the drug or preparation is not elsewhere mentioned. Lists of Formulæ for **Bougies, Granular Effervescent Preparations, Hypodermic Injections, Pessaries, Pills, Suppositories, and Lozenges** are added in alphabetical order.

NAME.	DOSE.	PAGE
Abrus Precatorius		31
Absolute Phenol	1 to 3 gr.	37
Absorbent Powders		226
A.C.E.		123
Acetic Ether	20 to 60 m.	70
Acetum Cantharidis, 1 in 10		112
,, *Scillæ*	15 to 40 m.	7
Acidulated Brine Test		323
Acidum Aceticum	5 to 15 m.	
,, *Aceticum Dilutum*	1 to 2 dr.	
,, *Aceticum Glaciale*	2 to 5 m.	
,, *Arseniosum*	1-60 to 1·12 gr.	84
,, *Benzoicum*	3 to 15 gr.	31
,, Boracicum, syn.	5 to 30 gr.	33
,, *Boricum*	5 to 30 gr.	33
,, Carbazoticum	¼ to 2 gr.	53
,, *Carbolicum*	1 to 3 gr.	37
,, *Carbolicum Liquefactum*	1 to 3 m.	38
,, Catharticum	4 to 8 gr.	46
,, *Chromicum*		46
,, Chrysophanicum	1·6 to ½ gr. or more.	127
,, *Citricum*	10 to 30 gr.	
,, Fluoricum Dilutum	15 to 60 m.	48
,, *Gallicum*	2 to 10 gr. or more.	7

Name.		Dose.	Page
Acidum	Gynocardicum	½ to 3 gr.	255
,,	*Hydrobromicum Dilutum*	20 to 60 m.	47
,,	*Hydrochloricum*	2 to 10 m.	
,,	*Hydrochloricum Dilutum*	10 to 30 m.	
,,	*Hydrocyanicum Dilutum*	2 to 8 m.	
,,	Hydrocyanicum Dil. (Scheele)	1 to 4 m.	7
,,	Hydrofluoricum Dilutnm	15 to 60 m.	48
,,	*Lacticum*	5 to 20 m.	49
,,	*Lacticum Dilutum*	30 to 120 m.	49
,,	*Meconicum*		51
,,	*Nitricum*	2 to 6 m.	
,,	*Nitricum Dilutum*	10 to 30 m.	
,,	*Nitrohydrochloricum Dilutum*	5 to 20 m.	8
,,	*Oleicum*		249
,,	Orthoxyphenyl—Sulphurosum		41
,,	Osmicum, sol. 1 per cent.	2 to 10 m. daily	51
,,	*Phosphoricum Concentratum*	2 to 5 m.	52
,,	*Phosphoricum Dilutum*	10 to 30 m.	52
,,	Picricum	¼ to 2 gr.	53
,,	Pyrogallicum	½ to 1½ gr.	53
,,	*Salicylicum*	5 to 30 gr. or more.	55
,,	Scleroticum	½ to ¾ gr.	173
,,	*Sulphuricum*	1 to 3 m.	8
,,	*Sulphuricum Dilutum*	10 to 30 m.	
,,	*Sulphuricum Aromaticum*	5 to 30 m.	169
,,	*Sulphurosum*	30 to 120 m.	62
,,	*Tannicum*	2 to 10 gr.	
,,	*Tartaricum*	10 to 30 gr.	
,,	Trichlorphenicum		45
,,	Trinitrophenicum	¼ to 2 gr.	53
Aconite Leaves and Root			63
Aconitina		1-240 to 1-60 gr.	63
Aconitinæ Oleatum, 1 in 50			65
Aconitine		1-240 to 1-60 gr.	63
Aconitum	Ferox		337
,,	Fischeri		337
,,	Heterophyllum	5 to 20 gr.	337
,,	Japonicum		337
,,	Lycoctonum		337
,,	*Napellus*		63
,,	Uncinatum		337
Actæa Racemosa			129
Adepsine			261
Adonidin			337
Adonis Vernalis		3 to 6 gr.	337
Æther		20 to 60 m.	67

NAME.	DOSE.	PAGE.
Æther Aceticus	20 to 60 m.	70
,, Phosphoratus		269
,, *Purus*		68
,, *Sulphuricus*	20 to 60 m.	67
Æthyl Bromidum		70
,, Iodidum		71
Agar-Agar		337
Agaricin	1-12 to 1-6 gr.	73
Agaricns albus	10 to 30 gr.	73
,, Muscarius		241
Aix-les-Bains Water (Artificial)		106
Albumen, Tests for		323
Alcohol Amylicum		8
Alcohol Ethylicum		8, 73
Aldehydum Dilutnm		74
Alder (Black), Bark of		305
Alkaloids of Cinchona		137
Aloe Barbudensis, or *Socotrina*	2 to 6 gr.	75
Aloin	1 to 4 gr.	75
Alstonia Constricta		337
,, Scholaris		337
Althein	1 to 2 gr.	86
Alum, Ammonium	10 to 20 gr.	9
,, Potassium	10 to 20 gr.	
Alumen Exsiccatum		9
Amanita Muscaria		241
American Indian Hemp		81
Ammoniacum	10 to 20 gr.	
Ammonii Benzoas	10 to 30 gr.	32
,, *Bromidum*	2 to 20 gr.	
,, *Carbonas*	3 to 10 gr.	9
,, *Chloridum*	5 to 20 gr.	76
,, Hypophosphis	1 to 6 gr.	273
,, Iodidum	3 to 20 gr.	76
,, *Nitras*		76
,, *Phosphas*	5 to 20 gr.	9
Ammonio-Ferric Alum	3 to 10 gr.	189
Amyl Colloid		146
,, Hydride		146
Amyl Nitris	½ to 1 m. by month 2 to 5 m. inhaled	76
Amyli Iodidum	½ to 4 drs.	218
Anacardinm Occidentale		79
,, Officinarum		79
Anamirtin		279
Andira Inermis	20 to 30 gr.	339

Name.	Dose.	Page
Anemonin	1-60 to 1-12 gr.	293
Anisi Fructus		9
Anisi Stellati Fructus		9
Anodyne Colloid		154
Anthemidis Flores		79
Anthoxanthum Odoratum		80
Antimonii Chloridum		80
,, *Oxidum*	1 to 4 gr.	
Antimonium Sulphuratum	1 to 5 gr.	9
,, *Tartaratum*	Diaphoretic, 1-16 to 1-6 gr. Depressent, 1-6 to 1 gr. Emetic ...... 1 to 2 gr.	
Antipyrin	15 to 30 gr.	117
Antiseptic Applications		342
Antiseptic Ozonic Ointment		207
Apiol	3 to 6 m.	80
Apocynum Cannabinum		81
Apomorphinæ Hydrochloras	1-16 to ¼ gr. by mouth 1-25 to 1-6 hypoderm.	81
Aqua Anisi		9
Aqua Aurantii Floris	½ dr. to 2 oz.	
,, *Camphoræ*	½ oz. to 2 oz.	108
,, *Carui*	½ to 2 oz.	
,, *Chloroformi*	½ oz. to 2 oz.	124
,, *Cinnamomi*	1 dr. to 2 oz.	
,, *Fœniculi*	½ oz. to 2 oz.	
,, *Laurocerasi*	5 to 30 m.	10
,, *Menthæ Piperitæ*	½ to 2 oz.	
,, *Menthæ Viridis*	½ to 2 oz.	
,, Picis	5 to 10 oz.	256
,, *Pimentæ*	½ to 2 oz.	
,, *Rosæ*	1 to 2 oz.	
,, *Sambuci*		
Araroba		118
Arbor Vitæ		327
Arbutin	15 gr.	337
Areca	2 to 6 dr.	10
Argenti et Potasii Nitras		10, 84
,, Injectio Hypodermica		84
,, *Nitras*	1-6 to 1-3 gr.	83
,, *Oxidum*	½ to 2 gr.	
Ari Succus	1 dr.	330
Arsenic White	1-60 to 1-12 gr.	84
Arsenical Cigarettes		291
Arsenii Iodidum	1-30 gr.	85
Arsenious Acid	1-60 to 1-12 gr.	84
Arsenium		84

Name.	Dose.	Page
Asafœtida	5 to 20 gr.	10
Asclepias Incarnata		338
,, Cornuti		338
,, Syriaca		338
,, Tuberosa		338
Aseptol		41
Asparagin	1 to 2 gr.	86
Aspidosamine		295
Aspidospermatine		295
Aspidospermine		295
,, Sulphate		295
Asthma Pastilles and Powders		290
Atis Root		337
Atropina	1-120 to 1-60 or 1-16 gr.	87
Atropinæ Oleatum, 1 in 40		89
,, Salicylas	1-120 to 1-40 or 1-16 gr.	88
,, *Sulphas*	1-120 to 1-40 or 1-16 gr.	88
,, Valerianas	1-120 to 1-40 or 1-16 gr.	88
Atropine	1-120 to 1-60 or 1-16 gr.	87
Auri et Sodii Chloridum	1-30 to 1-12 gr.	92
Balls of Absorbent Wool		199
Balsamum Gurjunæ	½ to 2 dr.	92
,, *Peruvianum*	10 to 15 m.	
,, *Tolutanum*	10 to 20 gr.	
Bandages, Silicated		314, 342
Baptisin	1 to 5 gr.	93
Barbaloin	1 to 4 gr.	75
Barium Sulphide		107
Bebeeru Bark		93
Beberine, Hydrochlorate of	1 to 10 gr.	93
,, *Sulphate of*	1 to 10 gr.	93
Beech Tar		287
Beef, Essence of		181
,, Peptonised, Jelly of		258
,, Tea, Concentrated		181
Belladonna Leaves	1 to 5 gr.	93
,, *Root*	1 to 5 gr.	93
Benger's Liquor Pancreaticus	1 to 2 dr.	257
,, Liquor Pepticus	1 to 2 dr.	266
Benzoic Acid	3 to 15 gr.	31
Bikh		337
Benzolated Amylic Alcohol		26
Bile Test		321
Birch Tar		287
Bish		337
Bismuthi Carbonas	5 to 20 gr.	96

Name.	Dose.	Page
Bismuthi Citras	2 to 5 gr.	96
,, *et Ammonii Citras*	2 to 5 gr.	96
,, *Oxidum*	5 to 15 gr.	96
,, Oxychloridum	5 to 20 gr.	97
,, Salicylas	5 to 20 gr.	97
,, *Subnitras*	5 to 20 gr.	98
Bismuthum Peptonatum		97
,, Purificatum		10, 96
Black Alder		305
,, Cohosh		129
,, Snakeroot		129
Blatta Orientalis	2 to 8 gr.	338
Bliss' Cure		290
Blistering Liquid		114
Blood, Desiccated		182
Blue Gum Tree		176
Bogbean		234
Boldin		338
Boldoa Fragrans		338
Boletus Laricis	10 to 30 gr.	73
Bonducella		338
Bonduc Seeds	10 to 15 gr.	338
Bonjean's Ergotin	1 to 3 gr.	171
Boracic Acid	5 to 15 gr.	33
Borax	5 to 40 gr.	
Boric Acid	5 to 15 gr.	33
Boroglyceride		36
Bougies, Nasal, see Bnginaria		

Bougies, Urethral, Elastic, Gelatin, 6½ in. long :—

Belladonna, Alc. Ext., 1½ gr.

Ext. Krameriæ, 1 gr.

Lead Acetate, 1 gr.
Ext. Opium, 1 gr.

Tannic Acid, 1 gr.

Zinc Acetate, ½ gr. and 1 gr.

Zinc Chloride, ¼ gr.

Zinc Chloride, ¼ gr.
Ext. Opium, 1 gr.

Zinc Chloride, ¼ gr
Belladonna, Alc. Ext. 1 gr.

Zinc Sulphate, ½ gr. and 1 gr.

Zinc Sulphate, ½ gr.
Belladonna, Alc. Ext., 1 gr.

Zinc Sulphate, 1 gr.
Belladonna, Alc. Ext., 1 gr.

Zinc Sulphate, 1 gr.
Ext. Opium, 1 gr.

Name.	Dose.	Page
Bougies.		
Sulphate of Zinc, ½ gr. Ext. Hydrastis, 1 gr. „ Belladonna, 1 gr. Carbolic Acid, ¼ gr.		
Bougies, Urethral, with Cacao Butter:—		
Belladonna, Ext. Root, ¼ gr.		
Bismuth Oxychloride, 10 gr.		
Cocaine	½ gr.	142
Eucalyptus Oil, 10 m.		
Iodoform, 5 gr.		
Iodoform, 5 grs. Eucalyptus Oil, 10 m.		213
Lead Acetate, ½ gr., ¾ gr., and 1 gr.		
Tannic Acid, 1 gr.		
Zinc Chloride, ¼ gr. and ½ gr.		
Zinc Sulphate, ½ gr. and 1 gr.		
Brand's Meat Preparations		181
Brine Test, Acidulated		323
Bromal Hydrate	2 to 5 gr.	98
Bromide of Ammonium	2 to 20 gr.	
„ of Ethyl		70
„ of Iron	3 to 10 gr.	182
Bromide of Lithium	5 to 15 gr.	229
„ *of Potassium*	5 to 30 gr.	
„ *of Sodium*	10 to 30 gr.	310
„ of Zinc	3 to 10 gr.	334
„ Hydric		47
Brucine	1-16 gr. or ½ gr.	99
Bryonia		99
Buckbean		234
Buginaria.—Nasal Bougies, Elastic Gelatin, 2¼ in. long.		
Buginarium Acidi Carbolici	½ gr.	
„ Cocainæ Hydrochloratis	1-6 gr.	144
„ Cupri Sulphatis	1-10 gr. and 1-6 gr.	
„ Iodoformi	1-6 gr. and ½ gr.	212
„ Zinci Sulphatis	1-10 gr.	
Bullocks, Dried Blood of		181
Barnett's Disinfecting Fluid		335
Butcher's Broom Tar		287
Butter of Antimony		80
Butyl-Chloral Hydras	2 to 15 gr.	100
Byne		100
Cæsalpinia Bonducella		338
Caffeina	½ to 5 gr. or more.	101
Caffeinæ Citras	½ to 5 gr. or more.	102
„ Hydrobromas	½ to 5 gr. or more.	102

NAME.	DOSE.	PAGE
Caffeinæ Valerianas	½ to 3 gr.	102
,, Sodio-Salicylas	1 to 4 gr.	102
Calabar Bean	1 to 4 gr.	276
Calamina Præparata		10, 227
Calcii Carbonas præcipitata	10 to 60 gr.	10
,, *Chloridum*	10 to 20 gr.	104
,, *Hypophosphis*	1 to 6 gr.	274
,, Lactas	1 to 5 gr.	49
,, Permanganas		292
,, *Phosphas*	10 to 20 gr.	11
,, *Sulphas*		11
,, Sulphidum	1-10 to 1 gr.	105
Calendula		107
Calisaya Bark	10 to 60 gr.	132
Calomel	½ to 5 gr.	
Calumbæ Radix	10 to 20 gr.	
Calx Chlorinta		11
,, *Sulphurata*		11, 105
Cambogia	1 to 4 gr.	
Camphor	1 to 10 gr.	108
Camphor Ball		109
,, Essential Oil of		108
Camphora	1 to 10 gr.	108
,, Monobromata	2 to 10 gr.	110
,, Salicylata	1 to 5 gr.	111
Camphorated Carbolic Acid		38
,, Chalk		109
Cannabis Indica		111
Cannabin Tannas	2 to 10 gr.	111
Cannabinon	¼ to 1 gr.	112
Cantharides		112
Cantharidin		113
Cantharis	1-16 to gr.	112
Canton's Phosphorus		105
Capparis Coriacea		340
Capsaicin		114
Capsicin	1-8 to ¼ gr.	114
Capsicum Fruit	½ to 1 gr.	114
Capsules of Amyl Nitrite, 1, 2, 3, and 5 m.		77
,, of Bromide of Ethyl, 5 m.		71
,, of Carbolic Acid, 60 m.		40
,, of Chloroform, 10 m.		123
,, of Fehling's Solution, 1 c.c		323
,, of Iodide of Ethyl, 5 m.		73
,, of Santal Oil, 10 m.		256
Carbasus Acidi Carbolici		38

NAME.	DOSE.	PAGE
Carbasus Eucalypti		177
,, Thymol		328
Carbarzotic Acid		53
Carbo Animalis	20 to 60 gr.	
Carbo Ligni	20 to 60 gr.	
Carbolic Acid	1 to 3 gr.	37
,, Acid Gauze		38
,, Acid Soap		41
,, Dressing		41
,, Oil		39
Carbolised Iodine Solution		39
,, Silk		39
,, Tow		39
,, Wool		39
Carbon, Tetrachloride of		115
Carmine		115
Carnis Extractum		181
Caroba		339
Carthagena Bark		131
Casca Bark		173
Cascara Amarga		306
,, Sagrada		305
Cashew Nut		79
Catechu	10 to 30 gr.	11
Catgut Ligatures		39, 46
Cathartic Acid	4 to 8 gr.	46
Caulophyllin	1 to 4 gr.	116
Caustic, Mitigated		83
,, Toughened		84
Caustica Zinci Chloridi		335
Cerasin	1 to 5 gr.	293
Ceratum Calaminæ		227
,, Cocainæ, 1 in 30		142
,, Petrolei		263
Cereolus Iodoformi, 5 gr. et Eucalypti, 10 m.		213
Cerevisiæ Fermentum	½ to 1 oz.	
Cerii Oxalas	1 to 2 gr.	
Chalk, Camphorated		103
Chamomile Flowers		79
Charta Nitrata		290
Chartazinc		254
Chaulmoogra Oil	2 to 15 gr.	255
,, Ointment		255
Chekan		338
Chemical Food	1 dr.	187
Chewstick, Jamaica		339

NAME.	DOSE.	PAGE
Chian Turpentine	5 to 10 gr.	321
Chinese Oil of Peppermint		234
Chinoidinum	1 to 5 gr.	303
Chinolini Salicylas	5 to 15 gr.	117
,, Tartras	5 to 15 gr.	116
Chinolinum	3 to 10 m.	116
Chloral Hydras	5 to 30 gr.	1 9
,, cum Camphorâ		119
,, cum Menthol		120
,, cum Thymol		120
Chloralum		228
Chloramyl		124
Chlori Gargarisma		311
Chloride of Methyl		236
Chloride of Zinc		334
Chlorodyne	5 to 20 m.	125
Chloroform, from Methylated Spirit		121
,, Capsules of		123
Chloroformum	1 to 10 m.	120
,, Belladonnæ, 1 in 1		94
,, Camphoratum, 2 in 3		124
Chlorogenine		337
Chloromorphiæ Liquor	5 to 20 m.	124
Chrisma		261
Chromic Catgut Ligatures		46
Chrysarobinum	1-6 to ½ gr. or more.	126
Chrysarobinum Purum		127
Chrysophanic Acid	1-5 to 2 gr. or more.	127
Cigarettes, Arsenical		291
Cimicifugæ Rhizoma		129
Cimicifugin	1 to 6 gr.	129
Cimolite		226
Cina		307
Cinchonæ Flavæ Cortex	10 to 60 gr.	130
,, *Pallidæ Cortex*	10 to 60 gr.	130
,, *Rubræ Cortex*	10 to 60 gr.	135
Cinchoninæ Hydrochloras	1½ to 10 gr.	138
,, *Sulphas*	1½ to 10 gr.	138
Cinchonidinæ Salicylas	1 to 10 gr.	139
,, *Sulphas*	1 to 10 gr.	138
Cinchonine	1 to 10 gr.	137
Clemens' Solution	1 to 5 m.	85
Clubmoss Spores		230
Coating Pills		282
Coca	30 to 120 gr.	139
Cocaina cum Oleo, 2 per cent.		142

NAME.	DOSE.	PAGE
Cocainæ Citras	... 1-5 to 1 gr.	143
,, *Hydrochloras*	... 1-6 to 1 gr.	143
,, Salicylas	... 1-5 to 1 gr.	144
Cocaine	... 1-8 to 1 gr.	142
Cocculin	... ...	279
Cocculus Indicus	... ...	298
Cockroach...	... ...	338
Codeina	¼ to 2 gr.	151
Codeine and Glycerine Jelly	... 1 dr.	152
Codeinæ Phosphas	...⅓ to 2 gr.	152
Coffee	... ...	101
Cohosh, Black	... ...	129
,, Blue	... ...	116
Colchici Cormus	2 to 8 gr.	
Colchicin	1-32 gr. ...	153
Collodium	... ...	153
,, Callosum	... ...	155
,, Cocainæ, 2 per cent. ...	... ...	142
,, cum Oleo Crotonis, 1 in 8	... ...	154
,, cum Iodoformo, 1 in 12 ...	... ...	212
,, *Flexile*	... ...	154
,, Iodi, 30 gr. in 1 oz.... ...	... ...	154
,, Salicylicum	... ...	154
,, ,, cum Zinci Chlorido...	... ...	155
,, Stypticum	... ...	155
,, *Vesicans*	... ...	113
Colloid Anodyne	... ...	154
Colocynthidis Pulpa	... 2 to 8 gr.	
Collunaria.—Nasal Douches :— ...	... ...	
Collunarium......... Acidi Carbolici 4 gr. Sodii Bicarb. 12 gr. Boracis .... 12 gr.	in 1 oz. T.H.	
,, Acidi Tannici, 3 gr. to 1 oz. T.H.	... ...	
,, Aluminis, 4 gr. to 1 oz. T.H.	... ...	
,, Potassii Permanganatis, 1-20 gr. in 1 oz. T.H.		
,, Quininæ, ½ gr. in 1 oz. T.H. ...	... ...	301
,, Sodii Bicarb , 30 gr. in 1 oz. T.H.	... ...	
,, Zinci Sulphatis, ½ gr. in 1 oz. T.H....	...	
,, Zinci Sulphocarbolatis, 2 gr. in 1 oz. T.H....		
Columbian Bark	... ...	131
Compressed Tablets	... ...	319
Concentrated Beef Tea (Brand's) ...	... ...	181
Conchinin	... 1 to 15 gr.	296
Condurango	... ...	338
Confectio Emblicæ	... 1 to 4 dr.	170
,, *Opii*	10 to 20 gr.	
,, *Piperis*...	60 to 120 gr.	

Name.	Dose.	Page.
Confectio Scammoniæ	10 to 30 gr.	12.
,, *Sennæ*	60 to 120 gr.	
,, *Sulphuris*	60 to 120 gr.	12
,, *Terebinthinæ*	60 to 120 gr.	
Conina	¼ gr. increased	155
Coninæ Hydrobromas	1-3 gr. increased	155
Coniine	¼ gr. increased	155
Conquinine	... 1 to 15 gr.	319
Convallamarin	½ to 2 gr.	157
Convallaria Majalis	... ...	157
Convallarin	... 3 to 4 gr.	157
Copaiba	30 to 60 m.	
Corns, Collodions for	... ...	155
Cornus Florida	20 to 60 gr.	338
Cosmoline	... ...	261
Coster's Paste	... ...	217
Coto Cortex	... 1 to 8 gr.	158
Cotoin	½ to 2 gr.	158
Cotton Wool, Medicated	... ...	199
Coumarin	... ...	159
Cream of Tartar	20 to 60 gr or more	21
Cream, Salicylic	... ...	58
Creasote	... 1 to 3 m.	160
,, Anhydrous	... 1 to 3 m.	160
,, Hydrated	... 1 to 3 m.	160
Creasotum	... 1 to 3 m.	160
Cremor Salicylicus	... ...	58
Cremor Zinci	... ...	264
Creta Præparata	10 to 60 gr.	
Crotalus	... ...	338
Croton-Chloral Hydrate	2 to 15 gr.	100
Cubeba	30 to 120 gr.	
Cuca	30 to 120 gr.	139
Cucumber Ointment	... ...	162
Cucumis	... ...	162
Cuprea Bark	... ...	131
Cupreinæ Sulphas	1 to 5 gr.	131
Cupri Nitras	... ...	12
Cupri Oleas	... ...	250
Cupri Sulphas	¼ to 2 gr.	
Cupric Test Pellets	... ...	323
Curara	1-20 to ½ gr.	162
Curarinæ Sulphas	... ...	162
Curcas Purgans	... ...	339
Curdling Ferment	... ...	256, 265
Cure, Himrod's	... ...	290

NAME.	DOSE.	PAGE
Cusso	¼ to ½ oz.	
Cypripedin	1 to 3 gr.	163
Damiana		163
Daturina	1-120 to 1-16 gr.	164
Daturinæ Sulphas	1-120 to 1-16 gr.	164
Daturine	1-120 to 1-16 gr.	164
,, Heavy		87
,, Light		87, 164
Day's Ointment		207
Decoctum Aloes Compositum	½ to 2 oz.	12
,, *Cetrariæ*	*ad lib.*	
,, *Cinchonæ*	1 to 2 oz.	136
,, Eucalypti Gummi	2 to 4 dr.	179
,, Euphorbiæ Piluliferæ		181
,, *Granati Radicis*	1 to 2 oz.	
,, *Hæmatoxyli*	1 to 2 oz.	
,, *Hordei*	*ad lib.*	
,, *Papaveris*, 1 in 10		
,, *Pareiræ*	1 to 2 oz.	
,, *Quercus*, 1 in 16		
,, *Sarsæ*	2 to 10 oz.	
,, *Sarsæ Compositum*	2 to 10 oz.	
,, *Scoparii*	2 to 4 oz.	
,, *Taraxaci*	2 to 4 oz.	
,, *Tritici*	1 to 5 oz.	341
Deelina Oil		264
Delphina	¼ to ½ gr.	164
Depilatories		107
Dialysed Iron	10 to 30 m.	186
Diastase, Malt		230
,, Pancreatic		257
Dichloride of Ethidene		174
Digitalein	1-60 to 1-30 gr.	165
Digitalin, Crystallized	1-60 to 1-30 gr.	165
,, Granules (Homolle)	2 to 4	165
Digitaline Amorphe	1-60 to 1-30 gr.	165
Digitalinum	1-60 to 1-30 gr.	165
Digitalis Folia	½ to 1½ gr.	165
Discs of Atropine, 1-5000 gr. in each		88
Dita Bark		337
Ditaine		337
Dogwood, Jamaica		285
Donovan's Solution	10 to 30 m.	17, 86
Dover's Powder (Pulv. Ipec. Co.)	5 to 15 gr.	
Drosera Rotundifolia		338
Duboisina		165

Name.	Dose.	Page
Duboisinæ Sulphas	1-120 to 1-30 gr.	166
Dynamite		245
Easton's Syrup	1 dr.	188
Ecballii Fructus		12
Elaterinum	1-40 to 1-10 gr.	168
Elaterium	1-16 to ½ gr.	167
Elixir Acidum	2 to 8 m.	169
,, Bismuthi	60 m.	168
,, Camphoræ	30 to 60 m.	109
,, Camphoræ Monobromatæ	4 dr.	110
,, Cinchonæ	60 m.	168
,, Cocæ	1 to 4 dr.	140
,, Coto	6 to 12 m.	159
,, Guaranæ	60 m.	201
,, Phosphori	15 to 60 m.	270
,, Rubrum	20 to 60 m.	169
,, Simplex	20 to 60 m.	168
,, of Vitriol	5 to 30 m.	169
Emblic Myrabolans	1 or 2	169
Emblicæ Fructus	1 or 2	169
Emetina (Alkaloid) Expectorant $\frac{1}{200}$ to $\frac{1}{30}$,	Emetic $\frac{1}{6}$ to $\frac{1}{3}$ gr.	170
Emetin (Extractive) ,, $\frac{1}{60}$ to $\frac{1}{15}$,	,, $\frac{1}{2}$ to 1 gr.	170
Emodin		305
Emplastrum Aconiti		65
,, Aconiti et Belladonnæ		65
,, *Belladonnæ*		12, 94
,, Belladonnæ Extensum		94
,, *Cantharidis*		112
,, Capsici		114
,, Hamamelidis		202
,, Hydrargyri Oleatis		252
,, *Plumbi*		12
,, ,, *Iodidi*		12
,, Rhois		306
,, Salicylicum		50
,, Thapsiæ		328
,, Unguentum Zinci (Unna's)		343
Emulsio Adipis	1 to 3 dr.	259
Emulsion of Fat	1 to 3 dr.	259
,, Pancreatic	1 to 3 dr.	258
Emulsive Ferment		256
Ergot	10 to 30 gr.	171
,, of Maize		349
Ergotinum	1 to 3 gr.	171
Ergotinine	$\frac{1}{100}$ gr.	172
Eriodictyon Glutinosum		341

NAME.	DOSE.	PAGE
Erythrophlœine		173
Erythrophlœinæ Hydrochloras		174
Erythrophlœum		174
Erythroxylon Coca	30 to 120 gr.	139
Eserina		277
Eserinæ Hydrobromas	1-60 to 1-20	277
,, Salicylas	1-60 to 1-20	277
,, Sulphas	1-60 to 1-20	277
Essence of Beef (Brand's)		181
Essentia Anisi	10 to 20 m.	
,, *Menthæ Piperitæ*	10 to 20 m.	
Ether	20 to 60 m.	67
,, Absolute		68
,, Absolute, Methylated		68
,, Acetic	20 to 60 m.	70
,, Methylated		69
,, Ozonic	½ to 1 dr.	207
,, Phosphorated	1 to 10 m.	269
,, pure, from Methylated Spirit		68
,, Perles of	1 to 4	69
,, *Sulphuric*	20 to 60 m.	67
Ethereal Oil		70
Etherisation of Rectum		68
Ethidene Dichloride		174
Ethyl, Bromide of		70
,, Chlorinated Chloride of		174
,, Iodide of		71
,, Oxide of	20 to 60 m.	67
Ethylate of Sodium, solution of		311
Ethylic Alcohol		73
Ethylidene, Chloride of		174
Eucalypti Folia	5 gr.	176
,, Gummi	2 to 6 gr.	178
,, *Oleum*		176
Eucalyptol		177
Eucalyptus Gauze		177
Euonymin	½ to 5 gr.	180
Eupatorium Perfoliatum	10 to 60 gr.	338
Euphorbia Pilulifera		180
Extract, Pond's		201
Extractum Aconiti	¼ to 1 gr.	65
,, Aconiti Radicis Alcoholicum	1-10 to 1-3 gr.	65
,, Agarici	3 to 6 gr.	73
,, *Aloes Barbadensis, or Socotrinæ*	2 to 6 gr.	
,, *Anthemidis*	2 to 10 gr.	78
,, *Belæ Liquidum*	1 dr. to 2 dr.	

Name.	Dose.	Page
Extractum Belladonnæ	¼ to 1 gr.	94
,, *Belladonnæ Alcoholicum*	1-16 to ¼ gr.	94
,, Bynes	1 to 4 dr.	231
,, *Calumbæ*	2 to 10 gr.	13
,, *Cannabis Indicæ*	¼ to 1 gr.	111
,, Carnis	... ...	181
,, *Cascaræ Sagradæ*	2 to 8 gr.	305
,, *Cascaræ Sagradæ Liquidum*	10 to 60 m.	305
,, Chekan Fluidum	½ to 3 dr.	338
,, *Cimicifugæ Liquidum*	3 to 30 m.	129
,, Cinchonæ Flavæ Liquidum	10 to 30 m.	136
,, *Cinchonæ Liquidum*	5 to 10 m.	136
,, ,, Rubræ Fluidum, U.S.	15 to 60.	136
,, Cocæ	5 to 15 gr.	140
,, *Cocæ Liquidum*	1 to 4 dr.	140
,, *Colchici*	½ to 2 gr.	
,, *Colchici Aceticum*	½ to 2 gr.	
,, *Colocynthidis Compositum*	3 to 10 gr.	13
,, Convallariæ	2 to 8 gr.	157
,, ,, Fluidum	5 to 15 m.	157
,, *Conii*	2 to 6 gr.	
,, Cornus Fluidum, U.S.	3 to 75 m.	338
,, Coto Liquidum	2 to 6 m.	158
,, Damianæ Liquidum	1 to 2 dr.	163
,, Digitalis, U.S., semi-alcoholic	1-6 to ½ gr.	
,, ,, Fluidum, ,, ,,	1 to 20 m.	
,, *Ergotæ Liquidum*	10 to 60 m.	171
,, Erythroxyli Fluidum	½ to 2 dr.	139
,, Eucalypti Gummi Liquidum	20 to 60 m.	179
,, Eupatorii Fluidum, U.S.	10 to 60 m.	338
,, Euphorbiæ Piluliferæ	½ to 1½ gr.	181
,, *Filicis Liquidum*	15 to 30 m.	29
,, Frangulæ Liquidum	1 to 4 dr.	305
,, Fuci Vesiculosi	3 to 8 gr.	191
,, Fuci Vesiculosi Liquidum	1 to 2 dr.	191
,, Galii	5 to 20 gr.	338
,, *Gelsemii Alcoholicum*	½ to 2 gr.	192
,, *Gentianæ*	2 to 10 gr.	
,, *Glycyrrhizæ*	5 to 60 gr.	197
,, *Glycyrrhizæ Liquidum*	20 to 60 m.	198
,, Grindeliæ	2 to 3 gr.	200
,, Grindeliæ Fluidum	10 to 30m.	200
,, *Hæmatoxyli*	10 to 30 gr.	
,, Hydrastis Fluidum, U.S.	5 to 20 m.	205
,, *Hyoscyami*	5 to 10 gr.	
,, *Jalapæ*	5 to 15 gr.	

NAME.	DOSE.	PAGE
Extractum Jaborandi	2 to 10 gr.	221
,, ,, Fluidum	10 to 60 m.	221
,, Kava-Kavæ Fluidum	15 to 60 m.	339
,, *Krameriæ*	5 to 20 gr.	
,, *Lactucæ*	5 to 15 gr.	
,, *Lupuli*	5 to 15 gr.	
,, Maidis	20 gr.	340
,, ,, Fluidum	1 dr.	342
,, Malti	1 to 4 dr.	231
,, Malti Ferratum	1 to 4 dr.	231
,, Malti cum Oleo Morrhuæ	1 to 4 dr.	231
,, Menyanthis et Glycyrrhizæ Liquid	½ oz.	235
,, *Nucis Vomicæ*	1-8 to ½ or 1 gr.	248
,, *Opii*	½ to 2 gr.	13
,, *Opii Liquidum*	10 to 40 m.	13
,, Pancreatis (Fairchild)		257
,, *Papaveris*	2 to 5 gr.	
,, *Pareiræ*	10 to 30 gr.	
,, *Pareiræ Liquidum*	30 to 120 m.	
,, *Physostigmatis*	1-16 to ¼ gr.	276
,, Pini Sylvestris		284
,, Piscidiæ Erythrinæ Fluidum	20 to 120 m.	285
,, *Quassiæ*	3 to 5 gr.	
,, Rhamni Frangulæ	15 to 60 gr.	305
,, *Rhamni Frangulæ Liquidum*	1 to 4 dr.	305
,, *Rhei*	5 to 15 gr.	
,, *Sarsæ Liquidum*	2 to 4 dr.	14
,, Sethiæ Liquidum	20 to 40 m.	340
,, Stillingiæ Fluidum	15 to 60 m.	316
,, *Stramonii*	¼ to ½ gr.	
,, *Taraxaci*	5 to 30 gr.	
,, *Taraxaci Liquidum*	½ to 2 dr.	14
,, Viburni Prunifolii	2 to 10 gr.	341
,, Vincæ Majoris Liquidum	1½ dr.	341
,, Yerbæ Santæ	10 to 40 m.	341
Fat Emulsion	1 to 3 dr.	259
Fehling's Solution		322
,, Solution, Glass Capsules of		323
,, ,, Pellets of		323
Fel Bovinum Purificatum	5 to 10 gr.	
Ferments—Digestive		256, 259, 265
Ferri Arsenias	1-16 to ½ gr.	86
,, Bromidum	3 to 10 gr.	182
,, *Carbonas Saccharatum*	5 to 30 gr.	
,, *et Ammonii Citras*	5 to 10 gr.	
,, Ammonii Sulphas	3 to 10 gr.	189

Name.	Dose.	Page
Ferri et Quininæ Citras	5 to 10 gr.	298
,, et Strychninæ Citras	3 to 8 gr.	317
,, Hypophosphis	1 to 5 gr.	274
,, Iodidum	1 to 5 gr.	14
,, Lactas	2 to 10 gr.	49
,, Oxidum Magneticum	5 to 10 gr.	14
,, Perchloridum	2 to 8 gr.	183
,, Peroxidum Humidum	2 to 4 dr.	14
,, ,, *Hydratum*	5 to 30 gr.	
,, *Phosphas*	2 to 10 gr.	187
,, ,, U.S.	2 to 8 gr.	187
,, Pyrophosphas, U.S.	2 to 8 gr.	275
,, Quininæ et Strychninæ Citras	3 to 10 gr.	298, 317
,, Salicylas	3 to 10 gr. or more.	56
,, *Sulphas*	1 to 5 gr.	
,, *Sulphas Exsiccata*	to 3 gr.	14
,, *Sulphas Granulata*	1 to 5 gr.	
Ferrier's Snuff		98
Ferro-Alumen	3 to 10 gr.	189
Ferrocyanide of Potassium Papers		325
Ferrocyanic Acid Test Pellets		323
Ferrum Peptonatum	5 to 15 gr.	187
Ferrum Redactum	1 to 5 gr.	14
Ferrum Tartaratum	5 to 10 gr.	
Fir Wool		284
,, Oil, and Extract		284
Fleming's Tincture of Aconite	1 to 5 m.	66
Flowers of Camphor	1 to 10 gr.	108
Fluoric Acid		48
Fluoride of Quinine	1 to 5 gr.	48
Formyl, Terchloride of	1 to 10 m.	120
Fossiline		261
Franciscea Uniflora		339
French Chalk		226
,, Oil of Turpentine	30 m. every ½ hour	268
Fructus Emblicæ	1 to 2	169
Fuchsine	½ to 4 gr.	190
Fucus Vesiculosus		190
Fuller's Earth		226
Fumus Potassii Nitratis		290
Fungus Laricis		73
Galbanum	5 to 15 gr.	
Galium Aparine		338
Galla	5 to 15 gr.	
Gamboge	1 to 5 gr.	
Gargarisma Chlori		311

NAME.	DOSE.	PAGE
Gauze, Carbolic Acid		38
„ Eucalyptus		177
„ Thymol		327
Gelatum Petroleum		261
Gelidium Corneum		337
Gelsemina (Alkaloid)	1-60 to 1-20 gr.	191
Gelseminæ Hydrochloras	1-60 to 1-20 gr.	192
Gelsemin (Eclectic)	½ to 2 gr.	192
Gelsemium	5 to 30 gr.	191
Geoffroya Inermis	20 to 30 gr.	339
Gingerin	¼ to 1 gr.	193
Glass, Soluble		314
Glonoine		244
Glycerine Jelly		195
Glycerinum	10 m. to 2 dr.	194
„ Acidi Borici, 1 in 5		36
„ *Acidi Carbolici*, 1 to 4		40, 194
„ *Acidi Gallici*, 1 to 4		194
„ *Acidi Tannici*, 1 to 4		194
„ *Aluminis*, 1 to 5		194
„ „ et Acidi Tannici		194
„ *Amyli*, 1 to 8		14, 194
„ Belladonnæ		95
„ Bismuthi Nitratis, 60 gr. to 1 oz.		194
„ *Boracis*, 1 to 6		194
„ cum Aquâ Rosæ		195
„ Ferri Dialysati	30 to 60 m.	186
„ Hydrargyri Perchloridi		203
„ Iodi		216
„ Olei Ricini, 1 in 2		195
„ Pepsinæ Acidum	1 to 2 dr.	266
„ *Plumbi Subacetatis*		195
„ *Tragacanthæ*		330
Glycerole of Subacetate of Lead		195
Glyco-gelatine		196
Glycyrrhiza	5 to 20 gr.	197
Glycyrrhizinum Ammoniatum	½ to 5 gr.	198
Goa Powder		126
Gokhru		199
Golden Seal	10 to 30 gr.	205
Gossypium		14, 199
„ Absorbens		199
„ Acidi Borici (50 per cent.)		200
„ Acidi Carbolici		39
„ „ Salicylici (4 per cent.)		59
„ Camphoræ Salicylatæ (8 per cent.)		111

Name.	Dose.	Page
Gossypium Iodoformi (4, 10, and 50 per cent.)	... ...	214
Gouania Domingensis	... ...	339
Gouttes Baumé	... 1 to 8 m.	249
Granular Effervescent		
Carlsbad Salt	1 dr. or more.	
Citrate of Bismuth	,,	
,, ,, Caffeine	,,	102
,, ,, Iron	,,	
,, ,, Lithium	,,	
,, ,, Magnesium	,,	
,, ,, Potassium	,,	
Citro-Tartrate of Soda	,,	
Phosphate of Sodium	,,	315
Pullna Salt...	,,	
Salicylic Acid	,,	56
Sodio-Magnesian Aperient	,,	315
Sulphate of Sodium	,,	315
Vichy Salt...	,,	
Granules de Digitaline	2 to 4.	165
Green Mountain Cure	... ...	290
Grindelia	... ...	200
Guaiacate of Lithium	5 gr.	229
Guarana	10 to 60 gr.	201
Guaranine	½ to 5 gr.	101, 201
Gurjun Balsam	... to 2 dr.	92
Guttæ Atropinæ Sulphatis, 1 gr. in 1 oz. ...	... ...	89
,, Daturinæ, 2 gr. in 1 oz.	... ...	164
,, Eserinæ, R O.H., 2 gr. in 1 oz. ...	... ...	277
,, Pilocarpinæ, 2 gr. in 1 oz.	... ...	222
Gynocardia Odorata	... ...	255
Gypsum	... ...	226
Haller's Acid Elixir	... 2 to 8 m.	169
Hamamelidin	½ to 2 gr.	201
Hamamelin	½ to 2 gr.	201
Hamamelis	... ...	201
Haustus Santonini et Olei Ricini	... ...	303
Hazeline	... ...	201
Heberden's Ink, 1 to 2 oz.	... ...	184
Heim's Pills	... ...	
Helenin	1-3 to 2 gr.	211
Henna	... ...	339
Himrod's Cure for Asthma	... ...	290
Histological Preparations	... ...	344
Hoffman's Anodyne	... ...	70
Homatropinæ Hydrobromas	1-120 to 1-20 gr.	[illegible]
,, Hydrochloras	1-120 to 1-20 gr.	91

Name.	Dose.	Page
Homatropinæ Salicylas	1-120 to 1-20 gr.	91
Homatropine	... ...	91
Homolle's Granules of Digitalin ...	... ...	165
Huanuco Bark	... ...	132
Huile de Cade	... ...	287
Huxham's Tincture of Bark	... ½ to 2 dr.	137
Hydrargyri Bichloridum = Perchloridum	1-16 to 1-8 gr.	
,, Chloridum = Subchloridum	½ to 5 gr.	
,, Chloridum Corrosivum, U.S. = Perchloridum.		
,, ,, Mite, U.S. = Subchloridum.		
,, Cyanidum	1-20 to 1-6 gr.	202
,, *Iodidum Rubrum*	1-32 to 1-8 gr.	
,, ,, Viride	1-6 to 1 or 3 gr.	14
,, *Nitrico-Oxidum*	¼ to 1 gr.	
,, Oleatum, 5, 10, and 20 per cent.	... ...	250
,, ,, cum Morphinâ ...	... ...	250
,, Oleo-Palmitas	... ...	251
,, *Oxidum Rubrum*	¼ to 1 gr.	
,, *Perchloridi Liquor* ...	30 to 120 m.	203
,, *Perchloridum*	1-16 to 1-8 gr.	203
,, *Persulphas*	... ...	15
,, *Pilula*	... 3 to 8 gr.	
,, *Subchloridi, Co. Pilula* ...	... 5 to 10 gr.	
,, *Subchloridum*	½ to 5 gr.	
,, Tannas	... 1½ gr. thrice daily	201
Hydrargyrum	... ...	202
Hydrargyrum cum Cretâ	... 3 to 8 gr.	
,, Iodatum Flavum, U.S. = Iodidum Viride.		
,, ,, Rubrum, U.S. = Iodidum Rubrum.		
Hydrastina (Alkaloid)	½ to 5 gr.	205
Hydrastin (Eclectic)	... 2 to 6 gr.	205
Hydrastinæ Hydrochloras	... ½ to 6 gr.	205
Hydrastis	10 to 30 gr.	205
Hydrate of Chloral	... 5 to 30 gr.	119
Hydride of Amyl	... ...	154
Hydriodic Ether	... ...	71
Hydrobromic Acid, Diluted	20 to 60 m.	47
,, Ether	... ...	70
Hydrochinon	... ...	208
Hydrochloric Acid	... 2 to 10 m.	
Hydrocotyle Asiatica	... 4 to 10 gr.	339
Hydrocyanic Acid, diluted	... 2 to 8 m.	
Hydrofluoric Acid	... ...	48
Hydrogen, Peroxide of	½ to 2 dr.	206
Hydroquinone	... ...	208
Hydroxyl, Solution of	½ to 2 dr.	206

NAME.	DOSE.	PAGE
Hygrin		142
Hyoscine		87, 209
Hymenodictyon Excelsum		339
Hyoscyamina	1-120 to 1-40	87, 208
Hyoscyaminæ Sulphas	1-120 to 1-40	209
Hyoscyamine	1-120 to 1-40	87, 208
,, Amorphous	1-16 to 1-8 gr.	209
,, Sulphate	1-120 to 1-40	209
Hyperosmic Acid, sol. 1 per cent.	3 m. daily	51
Hypobromite of Sodium, Solution		312
Hypophosphites		273
Hyposulphite of Sodium	10 to 60 gr.	63
Icthyol		45
Ignatia Amara Beans		249
Indigo-carmine Papers		323
Inein		340
Infusa		15
Infusum Adonidis Vernalis	4 dr.	337
,, *Anthemidis*	1 to 4 oz.	
,, *Aurantii*	1 to 2 oz.	
,, *Aurantii Compositum*	1 to 2 oz.	
,, *Buchu*	1 to 4 oz.	
,, *Calumbæ*	1 to 2 oz.	
,, *Caryophylli*	1 to 4 oz.	
,, *Cascarillæ*	1 to 2 oz.	
,, *Catechu*	1 to 2 oz.	
,, *Chiratæ*	1 to 2 oz.	
,, *Cinchonæ Acidum*	1 to 2 oz.	137
,, *Cuspariæ*	1 to 2 oz.	
,, *Cusso*	4 to 8 oz.	
,, *Digitalis*	¼ to ½ oz.	15
,, Dulcamaræ	1 to 2 oz.	15
,, *Ergotæ*	1 to 2 oz.	171
,, *Gentianæ Compositum*	1 to 2 oz.	
,, Gokbru	20 oz. daily.	199
,, *Jaborandi*	1 to 2 oz.	221
,, Kava-Kavæ	half a pint	339
,, *Krameriæ*	1 to 2 oz.	
,, *Lini*	*ad libitum.*	
,, *Lupuli*	1 to 2 oz.	
,, Malti	¼ to ½ oz.	231
,, *Maticæ*	1 to 4 oz.	
,, Menyanthis	2 to 6 oz.	235
,, *Quassiæ*	1 to 2 oz.	
,, *Rhei*	1 to 2 oz.	
,, *Rosæ Acidum*	1 to 2 oz.	

NAME.	DOSE.	PAGE
Infusum Senegæ	... 1 to 2 oz.	
,, *Sennæ*	... 1 to 2 oz.	
,, *Serpentariæ*	... 1 to 2 oz.	
,, *Uvæ Ursi*	... 1 to 2 oz.	
,, *Valerianæ*	... 1 to 2 oz.	
,, Vincæ Majoris	a wine-glassful	341
Ingluvin	... 5 to 10 gr.	210
Injectio Acidi Sclerotici Hypodermica	... 3 to 5 m.	173
,, Aconitinæ Hypodermica ...	... 1 to 4 m.	64
,, *Apomorphinæ Hypodermica*	... 2 to 8 m.	82
,, Argenti Hypodermica ...	... 2 to 10 m.	84
,, Atropinæ Hypodermica ...	... 1 to 4 m.	89
,, Caffeinæ Hypodermica ...	... 1 to 3 m.	102
,, Cocainæ Hydrochloratis Hypodermica, 1 in 20	... 2 to 10 m.	144
,, Codeinæ Hypodermica, 1 in 6	... 2 to 6 m.	152
,, Coninæ Hydrobromatis Hypodermica	1 to 3 m.	156
,, Cotoin Hypodermica	... 15 m.	159
,, Curaræ Hypodermica, 1 in 12	... 1 to 6 m.	163
,, *Ergotini Hypodermica* ...	... 3 to 10 m.	171
,, Ergotinini, 1 in 1,000 ...	... 5 to 10 m.	172
,, Ferri Perchloridi, 60 gr. in 1 oz. ...	... ...	184
,, Gelseminæ Hypodermica, 1 in 60...	1 to 3 m.	192
,, Homatropinæ, 1 in 120 ...	... 1 to 6 m.	91
,, { Hydrarg. Iodidi Rub., 1 in 64 Sodii Iodidi, *q.s.* ... ... }	2 to 6 m..	
,, Hyoscyaminæ Hypodermica	... 1 to 4 m.	209
,, Iodi Hypodermica Fortissima	... 3 to 5 m.	217
,, Morphinæ Acetatis Hypodermica, 1 in 6	... 1 to 3 m.	238
,, Morphinæ et Atropinæ Hypodermica	... 1 to 3 m.	238
,, *Morphinæ Hypodermica*, 1 in 10 ...	1 to 5 m.	237
,, Morphinæ Tartratis Hypodermica	1 to 6 m.	241
,, Nitroglycerini Hypodermica	... 1 to 4 m.	246
,, Physostigmatis Hypodermica	... 3 to 12 m.	276
,, Physostigminæ Salicylatis Hypodermica	... 1 to 6 m.	277
,, Pilocarpinæ Nitratis Hypodermica	2 to 6 m.	223
,, Quininæ Hydrobromatis Acidæ Hypodermica	... 3 to 12 m.	298
,, Quininæ Hydrochloratis Acidæ Hypodermica	... 3 to 12 m.	299
,, Quininæ Sulphatis Acidæ Hypodermica	... 4 to 18 m.	303
,, Strychninæ Nitratis Hypodermica	1 to 4 m.	317

Name.	Dose.	Page
Injectio Strychninæ Sulphatis Hypodermica	1 to 3 m.	319
Ink, Heberden's	1 to 2 oz.	181
Insufflatio Eucalypti Gummi, ¼ gr. in each		179
,, Iodoformi, 1 gr. in each		212
Inula Helenium	1-3 to 2 gr.	211
Iodide of Ammonium	3 to 20 gr.	76
,, *Arsenic*	1-30 gr.	85
,, Ethyl Capsules, 5 m. in each		72
Iodized Starch	½ to 4 dr.	218
,, Starch, Paste of		2 9
Iodine		216
Iodized Phenol		40
Iodoform	½ to 3 gr.	211
,, Gauze, 10 per cent....		213
,, Pencils		214
,, Wool, 4, 10, and 50 per cent.		214
Iodoformum	½ to 3 gr.	211
,, Aromaticum		212
,, Precipitatum	½ to 3 gr.	211
Iodo-Glycerine Solution, 10 gr. in 1 oz.		217
Iodo-Mercurate of Potassium, Papers of		325
,, ,, ,, Solution		324
Iodo-Vaseline		215
Ipecacuanha	½ to 2 gr. expectorant 15 to 30 gr. emetic.	
Iridin (*Syn.* Irisin)	1 to 5 gr.	219
Iron Alum...	3 to 10 gr.	189
,, Bromide of	3 to 10 gr.	182
,, Dialysed	10 to 30 m.	186
,, Perchloride of	2 to 8 gr.	183
,, *Phosphate of*	2 to 10 gr.	187
,, ,, U.S....	2 to 8 gr.	187
,, Pyrophosphate, U.S.	2 to 8 gr.	275
Jaborandi	5 to 60 gr.	220
Jacaranda Lancifoliata		339
,, Tomentosa		339
Jalapa	10 to 30 gr.	15
Jalapæ Resina	2 to 5 gr.	15
Jamaica Chewstick		339
,, Dogwood		285
Japanese Aconite		337
,, Belladonna		340
Jarisch's Ointment		54
Jatropha Curcas		339
Jequirity Seeds		31
Juglandin	2 to 5 gr.	225

NAME.	DOSE.	PAGE
Jumble Beads	...	31
Juniper Tar	...	287
Kamala	30 to 120 gr.	15
Kairin	5 to 8 or 15 gr.	118
Kaladana	...	340
Kaolin Præparatus	...	225
Kava-Kava	...	339
Keratin Coating for Pills	...	283
Kieselguhr	...	224
Kola Nut	...	101
Koromiko	...	339
Kreasote	1 to 3 m.	160
Lac Sulphuris	20 to 60 gr.	319
Lachnanthes Tinctoria	...	339
Lactate of Calcium	1 to 5 gr.	49
,, Iron	2 to 10 gr.	49
,, Quinine	1 to 5 gr.	300
,, Zinc	3 to 30 gr.	336
Lactic Acid	5 to 20 m.	49
,, ,, *Diluted*	30 to 120 m.	49
Lactopeptine	10 to 15 gr.	266
Ladies' Slipper	...	163
Lamellæ Atropinæ	1-5000 gr.	88
,, *Cocainæ Hydrochloratis*	1-200 gr.	144
,, *Physostigminæ*	1-1000 gr.	277
Larch Agaric	10 to 30 gr.	73
Lawsonia Inermis	...	339
Leptandrin	¼ to 2 gr.	227
Liebig's Extract of Beef	...	181
Liebreich's Pepsin-Essenz	1 to 2 dr.	267
Ligatures, Carbolised	...	39
Light Atropine	...	87
Lily of the Valley	...	157
Linctus Morphinæ	60 m.	239
Linimentum Aconiti	...	65
,, Atropinæ, 1 in 120	...	89
,, *Belladonnæ*	...	95
,, Belladonnæ Compositum	...	95
,, Capsici	...	115
,, *Chloroformi*, 1 in 2	...	125
,, Crinale	...	113
,, *Iodi*, 1 in 8	...	216
,, Menthol	...	234
Lint, Marine	...	342
Linteum Acidi Borici	...	33
Liquor Acidi Chromici	...	16, 47

NAME.	DOSE.	PAGE
Liquor Acidi Osmici		51
,, Aluminii Acetici		228
,, ,, Chloridi		228
,, *Ammonii*	10 to 20 m.	
,, ,, *Acetatis*	2 to 6 dr.	16
,, ,, *Acetatis Fortior*	25 to 75 m.	16
,, ,, *Citratis*	2 to 6 dr.	16
,, ,, *Citratis Fortior*	½ to 1½ dr.	16
,, *Antimonii Chloridi*		80
,, *Arsenicalis*	2 to 8 m.	84
,, Arsenii Bromatus	1 to 5 m.	85
,, ,, *et Hydrargyri Iodidi*	10 to 30 m.	86
,, *Arsenici Hydrochloricus*	2 to 8 m.	85
,, *Atropinæ Sulphatis*, 1 per cent.	1 to 4 m.	89
,, *Bismuthi et Ammonii Citratis*	30 to 60 m.	96
,, Bituminis Compositus		44
,, Calcii Chloridi	15 to 50 m.	104
,, *Calcis*	1 to 4 oz.	17
,, ,, *Saccharatus*	15 to 60 m.	
,, Carbonis Detergens		44
,, Carmini, 40 gr. to 1 oz.		116
,, *Chlori*	10 to 20 m.	
,, Chloromorphiæ	5 to 20 m.	124
,, Cocainæ Hydrochloratis, 4 and 20 per cent.		144
,, *Epispasticus*		114
,, Ergotæ Ammoniatus	10 to 60 m.	172
,, Ferri Acetatis	5 to 30 m.	17
,, ,, ,, Fortior	1 to 8 m.	17
,, ,, Chloroxidi	10 to 30 m.	185
,, ,, *Dialysatus*	10 to 30 m.	186
,, ,, Hypophosphitis Compositus	60 m.	274
,, ,, *Perchloridi*	10 to 30 m.	183
,, ,, ,, *Fortior*	2 to 8 m.	184
,, ,, *Pernitratis*	10 to 40 m.	
,, Gelseminæ Hydrochloratis, 1 in 60		192
,, Gutta Percha, 1 to 8		17
,, *Hydrargyri Perchloridi*	½ to 2 dr.	203
,, *Iodi*	5 to 30 m.	216
,, Jaborandi (Ext. Fluid)	10 to 60 m.	221
,, *Lithii Effervescens*	5 to 10 oz.	18
,, *Magnesii Carbonatis*	1 to 2 oz.	18
,, ,, *Citratis*	5 to 10 oz.	18
,, *Morphinæ Acetatis*, 1 per cent.	10 to 60 m.	238
,, ,, *Bimeconatis* ,,	10 to 30 m.	240
,, ,, *Hydrochloratis* ,,	10 to 60 m.	239
,, ,, Sulphatis ,,	60 m.	240

Name.	Dose.	Page
Liquor Nitroglycerini	½ to 2 m. or more	246
,, Pancreaticus	1 to 2 dr.	257
,, Pepticus	1 to 2 dr.	266
,, Picrotoxini Aceticus	2 to 12 m.	279
,, Potassæ Arsenitis	3 to 8 m.	84
,, *Potassæ*	15 to 60 m.	
,, *Potassii Permanganatis*	2 to 4 dr.	291
,, *Sodæ*	10 to 30 m.	
,, ,, *Arseniatis*	5 to 10 m.	86
,, ,, *Chloratæ*	10 to 20 m.	
,, ,, *Ethylatis*		312
,, Stillingiæ Compositus	1 to 4 dr.	316
,, *Strychninæ Hydrochloratis*	4 to 10 m.	317
,, Thymol, 1 in 800		327
,, *Zinci Chloridi*, 4 m. = 3 gr.		335
Liquorice		197
,, *Compound Powder of*	10 to 60 gr.	198
Lithii Benzoas	2 to 10 gr.	229
,, Bromidum	5 to 15 gr.	229
,, *Carbonas*	3 to 6 gr.	
,, *Citras*	5 to 10 gr.	
,, ,, Tablets of		319
,, Guaiacas	2 to 5 gr.	229
Litmus Solution		26
London Paste		312
Lotio Acidi Benzoici		32
,, ,, Borici		34
,, ,, Carbolici		39
,, Calaminæ		227
,, Calcis Sulphurati		106
,, Hamamelidis		202
,, *Hydrargyri Flava*		203
,, *Nigra* ... Calomel 3 gr. to Lime Water 1 oz.		
,, Plumbi cum Lacte		198
,, Rubra		336
Lugol's Solution	5 to 10 m.	216
Lunar Caustic		83
,, Mitigated		83
Lund's Oil		39
Lupulin	2 to 5 gr.	229
Lycaconitine		337
Lycoperdon Giganteum		339
Lycopodium		230
Lytta	1-16 to ½ gr.	112
Mackintosh Sheeting		40
Magendie's Solution of Morphine, 16 gr. in 1 oz.		240

NAME.	DOSE.	PAGE
Magenta	½ to 4 gr.	190, 344
Magnesia	10 to 60 gr.	
,, *Levis*	10 to 60 gr.	
Magnesii Carbonas	10 to 60 gr.	19
,, *Carbonas Levis*	10 to 60 gr.	19
,, *Sulphas*	1 to 4 dr.	
Maidis Stigmata		340
,, Ustilago		341
Malti Pulvis	1 to 2 dr.	230
Malto-Viburnin	1 to 4 dr.	341
Malto-Yerbine		341
Maltum		230
Manaca		339
Mandragora Officinalis		240
Manganesii Hypophosphis	1 to 10 gr.	232
,, *Oxidum Nigrum*	4 to 30 gr.	232
,, Oxidum Precipitatum	3 to 10 gr.	232
,, Phosphas	1 to 5 gr.	232
,, Sulphas	2 to 10 gr. or more	232
Manna	1 dr. to 1 oz.	
Marigold		107
Marine Lint		286, 342
Marking Nut		79
Marsh Trefoil		234
Mass for Pessaries		197
Mastiche	1 to 20 gr.	
McDade's Mixture	1 to 4 dr.	316
Meat Extract		181
Meat Juice, Valentine's		182
,, Lozenges		181
Menispermin	1 to 5 gr.	232
Menthol	½ to 2 gr.	233
Menyanthes		234
Menyanthin		235
Mercurous Tannate	1½ gr.	204
Mercury, Oleate of		250
,, ,, with Morphine		250
,, Oleo-Palmitate of		251
,, *Perchloride of*	1-16 to 1-8 gr.	203
,, ,, ,, Wood Wool		343
,, Plaster of Oleo-Palmitate		252
Metaldehyde		74
Methyl Chloridum		235
Methyl-Orange		326
Methylene		236
Methysticin		343

Name.	Dose.	Page
Microscopic Object Reagents		344
Milk Peptonised		257
Mistletoe		341
Mistura Ammoniaci	½ to 1 oz.	
,, *Amygdalæ*	1 to 2 oz.	
,, Amyl Nitritis	1 to 2 dr.	77
,, Butyl-Chloral	1 oz.	100
,, *Creasoti*	1 to 2 oz.	160
,, *Cretæ*	1 to 2 oz.	
,, *Ferri Amara*	1 oz.	184
,, Ferri Aperiens	1 oz.	185
,, *Ferri Aromatica*	1 to 2 oz.	184
,, *Ferri Composita*	1 to 2 oz.	
,, Ferri Perchloridi	1 oz.	185
,, Ferri Salina	1 oz.	185
,, Gentianæ	½ to 1 oz.	19
,, Gentianæ Composita, P.L. Inf. Gent. Co., 12 oz. Inf. Sennæ Co., 6 oz. Tr. Card. Co., 2 oz.	½ to 2 oz.	
,, *Guaiaci*	½ to 2 oz.	
,, Olei Santali	1 oz.	256
,, *Scammonii*	½ to 2 oz.	19
,, *Sennæ Composita*	1 to 1½ gr.	19
,, *Spiritus Vini Gallici*	1 to 2 oz.	
,, Terebinthinæ Chiæ	1 oz.	322
Momordicin	1-40 to 1-6 gr.	168
Monobromated Camphor	2 to 10 gr.	110
Morphina	1-10 to ½ gr.	236
Morphinæ Acetas	1-8 to ½ gr.	237
,, Hydrobromas	1-8 to ½ gr.	239
,, *Hydrochloras*	1-8 to ½ gr.	239
,, Meconas	1-8 to ½ gr.	240
,, Oleatum, 1 in 60		236
,, *Sulphas*	1-8 to ½gr.	240
,, Tartras	1-8 to ½ gr.	241
Morphine	1-10 to ½ gr.	236
Moschus	5 to 10 gr.	
Mucilago Acaciæ, 2 fl. oz.=1 oz. gum	*ad libitum.*	
,, *Amyli*, 12 gr. to 1 oz.		20
,, *Tragacanthæ*	1 dr. to 1 oz.	330
Mullein, Great		334
Muscarinæ Nitras	½ to ¾ gr.	241
Mynsicht's Elixir of Vitriol	3 to 10 m.	169
Myoctonine		337
Myrabolanus Emblica	1 or 2	169
Myrica Gale		338

NAME.	DOSE.	PAGE
Myrioin	2 to 5 gr.	242
Myrrh	10 to 20 gr.	
Myrtus Chekan		338
Naphthaline		243
Naphthol		242
Narceina	½ to 1 gr.	243
Narcotina	1 to 3 gr.	241
Nasal Douches—Collunaria		
Nataloin	1 to 4 gr.	75
Nebula Acidi Lactici, 1 in 16		49
Nebula Ferri Perchloridi, 3 gr. in 1 oz.		184
Nectandra Rodiæi		93
Nepaul Aconite		337
Nepenthe=strength of Tr. Opii.	5 to 30 m.	
Nessler's Solution for Ammonia		325
New Grenada Bark		131
Nicotina	1-6 to 1 gr.	241
Nicotine	1-6 to 1 gr.	241
Nitrite of Amyl	½ to 1 m. by mouth 2 to 5 m. inhaled	76
Nitroglycerine	1-200 to 1-50 gr. or more	244
,, Solution	½ to 2 m. or more	246
,, *Tablets*	1-200, 1-100, 1-50 & 1-25 gr. in each	246
Nitrometer, Allen's		77
Nitrous Oxide Gas		76
Nux-vomica	1 to 3 grs.	248
Oil of Wine		70
Oiled Silk Protective		40
Oleanodyne		250
Oleata		249
Oleate of Copper		250
,, Mercury		250
,, ,, and Morphine		250
,, Zinc		253
Oleatum Aconitinæ, 1 gr. in 50 m.		65
,, Atropinæ, 1 in 40		89
,, Cocainæ		142
,, *Hydrargyri*, 5, 10, and 20 per cent.		250
,, ,, cum Morphinâ		250
,, Morphinæ, 1 gr. in 60 m.		236
,, Plumbi		252
,, Quininæ, 1 in 4		249
,, Veratrinæ, 1 in 50		333
,, *Zinci*		253
Oleic Acid		249
Oleum Æthereum		70

NAME.	DOSE.	PAGE
Oleum *Anethi*	1 to 3 m.	
,, *Anisi*	1 to 3 m.	
,, *Anthemidis*	2 to 5 m.	
,, Betulæ Pyroligneum		287
,, Cadinum		287
,, *Cajuputi*	1 to 4 m.	
,, *Carui*	1 to 5 m.	
,, *Caryophylli*	1 to 2 m.	
,, *Cinnamomi*	1 to 3 m.	
,, *Copaibæ*	5 to 20 m.	
,, *Coriandri*	1 to 5 m.	
,, *Crotonis*	1-3 to 1 m.	
,, *Cubebæ*	5 to 20 m.	
,, cum Cocainâ, 2 per cent.		142
,, Deelinæ		264
,, *Eucalypti*	1 to 5 m.	176
,, Fagi Pyroligneum		287
,, Gynocardiæ	2 to 15 gr.	255
,, *Juniperi*	3 to 5 m.	
,, *Lavandulæ*	1 to 5 m.	
,, *Limonis*	1 to 5 m.	
,, *Menthæ Piperitæ*	2 to 5 m.	
,, ,, *Viridis*	2 to 5 m.	
,, *Morrhuæ*	1 to 8 dr.	
,, Morrhuæ cum Æthere		69
,, Morrhuæ cum Quininâ	1 to 4 dr.	249
,, ,, Phosphoratum	1 to 4 dr.	270
,, *Myristicæ Expressum*	1 to 5 m.	
,, Nitroglycerini, 1 per cent.	1 to 2 m.	246
,, *Olivæ*	¼ to 1 oz.	
,, *Phosphoratum*	1 to 4 m.	270
,, Picis Rectificatum		286
,, *Pimentæ*	1 to 5 m.	
,, *Pini Sylvestris*		284
,, *Ricini*	1 to 8 dr.	
,, *Rosmarini*	1 to 5 m.	
,, Rusci Pyroligneum		287
,, *Rutæ*	1 to 5 m.	
,, *Sabinæ*	1 to 5 m.	
,, *Santali*	10 to 30 m.	255
,, *Terebinthinæ*	10 m. to 4 dr.	19
,, ,, Gallicum	30 m. every ½ hour.	268
Opium	½ to 2 gr.	20
Ordeal Bark		173
Orris Root		228
Orthoxyphenylsulphurous Acid		44

NAME.	DOSE.	PAGE
Osmic Acid, sol. 1 per cent.	3 m. daily	51
Osmium Tetroxide		51
Ovi Albumen		20
Ourari	1-20 to ½ gr.	162
Oxide of Ethyl		67
Oxychloride of Bismuth	5 to 20 gr.	87
,, ,, Iron		185
Oxychloride of Zinc		335
Oxygen		208
Oxygen Water		208
Oxymel	1 to 2 dr.	
,, *Scillæ*	½ to 1 dr.	
Ozokerine		261
Ozone Paper		290
Ozonic Ether	½ to 1 dr.	207
Ozonized Inunction (Day)		207
Pagenstecker's Ointment		204
Pancreas		256
Pancreatic Diastase		256
Pancreatic Emulsion	1 to 3 dr.	258
Pancreatine	2 to 4 gr.	257
Pancreatised Farinaceous Food		259
Papain	1 to 8 gr.	259
Papaverina	1-12 to 1-3 gr.	259
Papayotin	1 to 8 gr.	259
Paracoto Bark		159
Paracotoin	1½ to 3 gr.	159
Paraffin Ointment		260
Paraffinum Durum		20, 260
,, *Molle*		20, 260
Paraldehyde	15 to 60 m.	74
Paraldehydum	15 to 60 m.	74
Parrish's Chemical Food	1 dr.	187
Pasta Iodi et Amyli		219
,, Londinensis		312
,, Viennensis		312
,, Zinci Chloridi (Mid. Hosp.)		335
Pastilles Asthmatic		290
Pastillus Acidi Borici, 2 gr. in each		34, 197
,, Acidi Carbolici, ½ gr. in each		40
,, Aconiti Tincturæ, 1 m. in each		197
,, Ammonii Chloridi, 2 gr. in each		197
,, Bismuthi Carbonatis, 3 gr. in each		197
,, Bismuthi Carbonatis cum Morphinæ Acetate, 3 gr. and 1-40 gr.		197

NAME.	DOSE.	PAGE
Pastillus Bismuthi Carbonatis cum Potassii Chloratis, 3 and 2 gr.		197
,, Cocæ Extracti, 2½ gr.		140, 197
,, Cocainæ Hydrochloratis, 1-20 gr. in each		144, 197
,, Hydrargyri Perchloridi, 1-20 gr., cum Potassii Chloratis, 3 gr.		197
,, Iodoformi, 1 gr. in each		197, 214
,, Morphinæ Acetatis, 1-40 gr. in each		197
,, Potassii Chloratis, 2 gr. in each		197
,, Thymol, 1-32 gr. in each		197, 328
Pastils		197
Paullinia Sorbilis		201
Pavy's Cupric Test		323
Pelletierinæ Sulphas	5 to 8 gr.	265
,, Tannas	5 to 8 gr.	265
Pepsin	2 to 5 gr.	265
,, Tablets, 3 gr. in each	1 with meals	267
Pepsina Amylacea	5 to 15 gr.	266
,, Porci (Beale's)	2 to 5 gr.	266
,, Saccharata	5 to 15 gr.	266
Pepsin-Essenz (Liebreich's)	1 to 2 dr.	267
Peptone		267
,, Bile Test		324
Peptonised Beef		267
,, ,, Jelly		258
,, ,, Suppositories		267
,, Bismuth	80 gr.	97
,, Iron	5 to 15 gr.	187
,, Milk		257
Perles of Apiol	1 or 2	81
,, Carbolic Acid	1 or 2	40
,, Chloroform	1 or 2	125
,, Ether, 3 m. in each	1 to 4	65
,, Monobromated Camphor, 2 gr.	1 to 3	110
,, Phosphorated Oil, 1-64 gr.	1 or 2	270
,, ,, ,, 1-32 gr.	1 or 2	270
,, Tar	1 or 2	286
Permanganates		291
Porosmic Acid		51
Peroxide of Hydrogen	½ to 2 dr.	296
Pessaries, Gelatin Mass for		197
,, with Cacao Butter	15 gr. or 60 gr. in each	
Pessus Acidi Borici, 10 gr.		34
,, Acidi Tannici, 10 gr.		
,, Atropinæ, 1-20 gr.		89
,, Belladonnæ Ext. Rad., ½ and 1 gr.		95

NAME.	DOSE.	PAGE
Pessus Bismuthi Oxychloridi, 10 gr.		97
„ Cocainæ, ½ gr.		143
„ Coninæ, ½ m.		156
„ Iodoformi, 5 gr.		214
„ Plumbi Iodidi, 5 gr.		
„ Plumbi Iodidi, 5 gr. Atropinæ, 1-20 gr.		
„ Potassii Bromidi, 10 gr.		
„ „ Iodidi, 10 gr.		
„ Zinci Oxidi, 10 gr.		
„ „ Sulphocarbolatis, 10 gr.		
Petrolatum		264
Petroleum		260
„ Cerate of		263
„ Jelly		261
„ Ointment		260
„ Spirit		26
Peumus Boldus		338
Pharbitis Nil		340
Phellandrium Aquaticum		340
Phenic Acid	1 to 3 gr.	37
Phenol, Absolute	1 to 3 gr.	37
„ Iodized		40
Phenolphthaleïn, as a Test		325
Phenyl Alcohol	1 to 3 gr.	37
Phosphates, Saccharated Wheat		276
Phosphorated Cod Liver Oil	1 to 4 dr.	270
„ Oil	1 to 4 m.	270
„ Suet		271
Phosphorus	1-200 to 1-30 gr.	267
„ Red, or amorphous		269
„ Perles	1-64 and 1-32 gr. in each	270
„ Pills		270
Physostigmatis Semen	1 to 4 gr.	276
Physostigmina	1-100 to 1-50 gr.	277
Physostigminæ Hydrobromas	1-60 to 1-20 gr.	277
„ Salicylas	1-60 to 1-20 gr.	277
„ Sulphas	1-60 to 1-20 gr.	277
Phytolaccin	1 to 5 gr.	275
Picric Acid Test Solution		324
Picropodophyllin		288
Picrotoxin	1-120 to 1-20 gr.	278
Pigmentum Chloral et Camphoræ		119
„ Chrysarobin	1 to 9	128
„ Epispasticum		114
„ Ferri Perchloridi Dilutum	60 gr. in 1 oz.	184

Name.	Dose.	Page
Pigmentum Ferri Perchloridi Forte ...	120 gr. in 1 oz.	184
,, Iodi et Olei Picis ...	...	217
,, Picrotoxini ...	...	279
,, Plumbi ...	...	195
Pills ...	...	280
Pilocarpina ...	...	222
Pilocarpinæ Hydrochloras ...	1-20 to ½ gr.	222
,, Nitras ...	1-20 to ½ gr.	222
Pilocarpine ...	...	222
Pilocarpus Pennatifolius ...	5 to 60 gr.	220
Pilulæ		
Acidi Carbolici, 2 gr. ...	...	40
Acidi Arseniosi, 1-20, 1-30, 1-50, 1-60, 1-120 gr. ...		
Aconiti Rad., 1-8 gr. ...	1 hourly	65
Aloes Barbadensis ...	5 to 10 gr.	
,, *et Asafœtidæ* ...	5 to 10 gr.	20
,, *et Ferri* ...	5 to 10 gr.	
,, *et Myrrhæ* ...	5 to 10 gr.	20
Aloes Ext. Soc., 1 gr. Ext. Nucis Vom., ¼ gr. Ext. Hyoscyami, 2 gr.	1 to 2	
Aloes Ext. Soc., 1 gr. Mastich., ½ gr. S.V. R., *q.s.*	1 with dinner	
Aloes Socotrinæ ...	5 to 10 gr.	
Aloes Soc., 1 gr. Rhei, 1 gr. Mastich, 1 gr.	1 with dinner	
Aloin, 1-10 and 1 gr. ...	...	
Asiaticæ ...	...	
Acidi Arseniosi, 1-15 gr. Pip. Nig. ¾ gr. G. Acaciæ, *q.s.*	1 or 2 daily	
Asafœtidæ Composita ...	5 to 10 gr.	20
Atropinæ, 1-100 gr. and 1-80 gr.	1 at bedtime	90
Belladonnæ Fol., 1-10 gr. ...	1 hourly	
Bismuthi Subnit., 5 gr. ...	1 or 2 after meals	
Blaud's Ferruginous ...	...	
Butyl Chloral ...	3 gr.	100
Butyl-Chloral Hydr., 3 gr. Gelseminæ Hydrochl., 1-200 gr.	...	100
Calcis Sulphuratæ, 1-10 gr., 1-6 gr., ¼ gr., ½ gr., and 1 gr. ...	...	105
Calcii Phosph., 2 gr. Ferri Phosph., 2 gr. Acid Phosph., *q.s.*	1 thrice daily	
Cambogiæ Composita ...	5 to 10 gr.	

Name.	Dose.	Page
Pilulæ		
Camphoræ		109
,, Monobromatæ, 3 gr.		110
Catharticæ Compositæ, U.S.		
Ext. Col. Co., 1-3 gr. P. Ext. Jalap, 1 gr. Hyd. Subchlor., 1 gr. Cambogiæ, ¼ gr.	1 or 2	
Chloral Hydratis, 5 gr.	1 to 3	119
Chloral Hydratis, 5 gr. Morphinæ Hydrochl. 1-8 gr.	1 or 2	
,, Cocaine Hydrochloratis	1-5 gr	141
Codeinæ Composita, ¼ to 2 gr.	1 thrice daily	152
Colchici Ext. Acet., ¼ gr. Opii, ¼ gr. Pil. Coloc. Co., 2 gr. Pil. Hydrarg., 1½ gr.	1 or 2	
Colocynthidis Composita	5 to 10 gr.	
,, *et Hyoscyami*	5 to 10 gr.	
Conii Composita	5 to 10 gr.	
Coninæ Hydrobromatis, 1-3 gr.		156
Creasoti, 1 in 2	2 to 6 gr.	160
Digitalis Fol., ½ gr.	1 thrice daily	
Digitalis, Opii et Quininæ (Heim's)		
Digitalis, ½ gr. Opii Pulv., ¼ gr. Quininæ Sulph., 1 gr. Ipecac., ¼ gr.	1 thrice daily	
Ergotinæ		171
Euonymin, 2 gr.		180
Ferri Arsenicalis		85
Ferri Carbonatis	5 to 20 gr.	
Ferri Hypophosphitis cum Strychninâ	2 or 3 daily	275
Ferri Iodidi, 1 in 3½	3 to 8 gr.	
Ferri, Quininæ et Strychninæ Phosph.	2 or 3 daily	189
Ferri Sulph. Exsicc., 3 gr., 5 gr., cum Syr.	2 or 3 daily	280
Ferri Redacti, 1 gr. and 2 gr.	2 or 3 daily	
Ferruginosæ (Blaud's)		
Ferri Sulph., 2½ gr. Pot. Carb., 2½ gr. Tragacanth, *q. s.*	3 thrice daily	
Blaud's, (*improved, above are too alkaline*)		
Ferri Sulph., 2½ gr. Pot. Carb., 1½ gr. Sacchari, 1 gr. Tragacanth, 1-6 gr.	3 thrice daily	
Gelsemin (Extractive), ¼, ½, 1 gr.	1 at bedtime	192
Grindeliæ Ext., 3 gr.	1 thrice daily	200
Hydrargyri (1 in 3), 1 gr., 2 gr., 3 gr., 4 gr., and 5 gr.		

Pilulæ Name.	Dose.	Page
Pil. Hydrarg., 2½ gr. Pil. Coloc. Co., 2½ gr.	1 or 2	
Pil. Hydrarg., 1½ gr. Pil. Coloc. Co., 3 gr. Ipecac., 1-3 gr. Ext. Hyoscyam., 1 gr.	1 or 2	
Pil. Hydrarg., 2½ gr. Pil. Rhei Co., 2½ gr.	1 or 2	
Pil. Hydrarg., 3 gr. Hydr. Subchlor., 1-3 gr. Ipecac., 1-3 gr.	1 or 2	
Pil. Hydrarg., 3 gr. Opii Pulv., ¼ gr.	2 or 3 times a day	
Hydrarg. cum Cretâ, 1-3 gr., ½ gr.	every 1 or 2 hrs.	
Hydrarg. cum Cretâ, 2½ gr. Pulv. Ipecac. Co., 2½ gr.	1 or 2	
Hydrarg. Cyanidi, 1-12 gr. and 1-10 gr.	1 twice daily	
Hydrarg. Iodidi Rub., 1-16 gr.	1 twice daily	
Hydrarg. Iodidi Virid., 1-6 gr. and 1-3 gr.		
Hydrarg. Iodidi Virid., ½ gr. Opii Pulv., ¼ gr.		
Hydrarg. Perchloridi, 1-12 gr., 1-20 gr. and 1-40 gr.		
Hydrarg. Subchloridi, ½ gr., 1 gr., 2 gr., and 3 gr.		
Hydrarg. Subchloridi Composita (1 in 5)	5 to 10 gr.	
Hydrarg. Subchlor., 2 gr. Opii Pulv., 1 gr.	one	
Hydrarg. Subchlor., 1 gr. Opii Pulv., ¼ gr.	every 4 hours	
Hydrarg. Subchlor., 2 gr. Pil. Coloc. Co., 2 gr. Ext. Hyoscyami, ½ gr.	1 or 2 at bedtime	
Hydrargyri Tannat.	1½ gr. thrice daily	204
Hydrastin, 2 gr.	twice a day	205
Iodoformi, 2 gr.	twice or thrice a day	21
Ipecacuanhæ, 1-5 gr. and ½ gr.		
Ipecac. Co. Pulv., 5 gr.	1 or 2	
Ipecacuanhæ cum Scillâ	5 to 10 gr.	
Iridin, 2 gr.	at bedtime	219
Menispermin, 2 gr.	at bedtime	233
Morphinæ Hydrochl., ¼ gr.		
Nitroglycerini, 1-100 gr. and 1-50 gr.		246
Nucis Vomicæ Ext., 1-10 gr. and ¼ gr.		
Olei Crotonis, 1 m.		
Opii Pulveris, gr. ½ and gr. 1		
Pepsin, 2 gr. and 3 gr.		266
Phosphori	2 to 4 gr.	270
Phosphori (Martindale), 1-100 gr., 1-50 gr., and 1-30 gr.	after meals	271
Phosphori cum Ferro	after meals	271
Phosphori cum Ferro et Quininâ		272

Pilulæ Name.	Dose.	Page
Phosphori cum Ferro et Nuce Vomicâ	after meals	272
Phosphori cum Ferro, Quininâ et Strychninâ	,,	272
Phosphori cum Quininâ	,,	272
Physostigmatis Extracti, 1-15 gr., 1-10 gr.		276
Picis Liquidæ, 2 gr.	1 or 2	287
Picrotoxini, 1-60 gr.	at bedtime	279
Pilocarpinæ Nitratis, 1-20 gr.		223
Plumbi cum Opio (P. Opii. 1 in 8)	3 to 5 gr.	
Podophyllin, 1-30 gr., 1-20 gr., 1-15 gr., ¼ gr., and 1 gr.		288
Podophyllin Composita (Resin ¼ gr.)	1 or 2 at bedtime	289
Podophyllin et Quininæ (Resin 1-12 gr.)	with dinner	289
Potassii Permanganatis, 1 gr. and 2 gr.		292
Quininæ, 1 gr., 2 gr., 3 gr., and 4 gr.		20, 300
Quininæ Salicylatis, 3 gr.	every 6 hours	300
Quininæ Sulph., 1 gr. Ferri Sulph. Exsicc., 2 gr. Ext. Belladonnæ, 1-10 gr.	1 thrice daily	
Quininæ Sulph., 1 gr. Ferri Sulph. Exsicc., 1 gr. Ext. Cannabis Ind., ½ gr.	1 thrice daily	
Quininæ Sulph., 1 gr. Ferri Sulph. Exsicc.. 1 gr. Ext. Cannabis Ind., ½ gr. Aloes Socotrinæ, 1-3 gr.	1 thrice daily	
Rhei Composita, 2½ gr., 3 gr., 4 gr. and 5 gr.	5 to 10 gr.	20
Pil. Rhei Comp., 2½ gr. Ext. Taraxaci, 2½ gr.	at dinner or bedtime	
Saponis Composita (P. Opii, 1 in 5)	3 to 5 gr.	20
Scammonii Composita	5 to 15 gr.	20
Scillæ Composita	5 to 10 gr.	
Strychninæ,—1-100 gr., 1-36 gr., 1-24 gr. and 1-20 gr.		316
Terebinthinæ Chiæ, 3 gr.	2 every 4 hours	322
,, ,, et Zinci	1 to 3	322
Zinci Phosphidi, 1-6 gr.	thrice daily	272
,, Valerianatis, 3 gr.	,,	336
Zinci Valerianatis, 1 gr. Pil. Assafœtidæ Co., 2 gr.	1 or 2	
Pine Cure		284
Pinus Sylvestris		284
Piper Methysticum		339
Piperina	1 to 10 gr.	285
Piscidia		285
Pitcher Plant		340
Pitayo Bark		131

NAME.	DOSE.	PAGE
Pituri		166
Pix Liquida	2 to 10 gr.	286
Pleurisy Root		338
Plumbi Acetas	1 to 4 gr.	
,, *Emplastrum*		252
,, Oleatum		252
,, Oleati Unguentum		252
,, Stearas		252
,, Subacetatis Glycerinum		195
Po' de Bahia		126
Podophylli Rhizoma		20, 288
,, *Resina*	1-30 to 1 gr.	288
Podophyllic Acid		288
Podophyllin	1-30 to 1 gr.	288
Podophyllotoxin		288
Po-ho-yo		234
Poison Oak		306
Polyporus Officinalis		73
Pomegranate, Bark of Root		265
Pond's Extract		201
Potassa Sulphurata	2 to 8 gr.	
Potassii Acetas	10 to 60 gr.	20
,, *Bicarbonas*	10 to 60 gr.	20
,, *Bromidum*	5 to 30 gr.	
,, *Carbonas*	10 to 30 gr.	20
,, *Chloras*	10 to 30 gr.	20
,, *Citras*	20 to 60 gr.	20
,, Citras Effervescens	1 dr.	
,, *Cyanidum*		20
,, Hypophosphis	1 to 6 gr.	275
,, *Iodidum*	2 to 20 gr.	
,, *Nitras*	5 to 30 gr.	290
,, *Permanganas*	1 to 5 gr.	291
,, Silicas		314
,, *Sulphas*	15 to 60 gr.	21
,, *Tartras*	1 to 8 dr.	21
,, *Tartras Acida*	20 to 60 or 240 gr.	21
Potassium, Silicate of		314
Prayer Beads		31
Propylamine		331
Protective, Oiled Silk		40
Prunin	1 to 5 gr.	293
Prunus Virginiana		252
Pseud-aconitine		84
Puff Ball		339
Pulsatilla		293
,, Camphor	1-60 to 1-12 gr.	293
Pulvis Antimonialis	3 to 10 gr.	

Name.	Dose.	Page
Pulvis Bismuthi Compositus...		93
„ Bonducellæ Compositus	15 to 30 gr.	338
„ Boracis Compositus		114
„ *Catechu Co.*	20 to 40 gr.	
„ Cinchoninæ Compositus	3 to 12 gr.	138
„ *Cinnamomi Co.*	3 to 10 gr.	
„ Creasoti et Amyli		161
„ *Cretæ Aromaticus*	10 to 60 gr.	21
„ *Cretæ Aromaticus cum Opio*	10 to 40 gr.	
„ *Elaterini Co.*	½ to 5 gr.	168
„ *Glycyrrhizæ Compositus*	30 to 60 gr.	198
„ *Ipecacuanhæ Co.*	5 to 15 gr.	
„ *Jalapæ Co.*	20 to 60 gr.	
„ *Kino Co.*	5 to 20 gr.	
„ Liquiritiæ Compositus...	30 to 60 gr.	198
„ Lobeliæ Compositus		291
„ *Opii Compositus...*	2 to 5 gr.	
„ Pancreaticus Alkalinus (Benger)	30 gr.	259
„ Pectoralis (Kurellæ)	30 to 60 gr.	198
„ Plumbi Oleatis Co.		252
„ *Rhei Compositus*	20 to 60 gr.	21
„ Salicylicus cum Talco, P.G., 1 in 33		58
„ *Scammoniæ Compositus*	10 to 20 gr.	
„ Seidlitz		315
„ *Tragacanthæ Compositus*	10 to 60 gr.	330
„ Zinci Oleatis		254
Punica Granatum		265
Pyridine		294
Pyrocatechin		208
Pyrogallic Acid	½ to 1½ gr.	53
Pyrogallol	½ to 1½ gr.	53
Pyroxylin		199
Quebracho Bark		295
Quillaia		44
Quineti Sulphas	1 to 5 gr. or more	296
Quinetum	1 to 5 gr. or more	295
Quinina	1 to 4 gr.	297
Quininæ Arsenias...	1-8 to ½ gr.	297
„ Chloras	1 to 5 gr.	297
„ Citras	1 to 5 gr.	297
„ Fluoridum	1 to 5 gr.	48
„ Hydrobromas	1 to 5 gr.	298
„ „ Acida	½ to 2 gr. (hypod.)	298
„ *Hydrochloras*	1 to 10 gr.	299
„ „ Acida	½ to 2 gr. (hypod.)	299
„ Iodas	1 to 5 gr.	299
„ Iodidum	1 to 5 gr.	299
„ „ Acidum	1 to 4 gr.	299

NAME.	DOSE.	PAGE
Quininæ Lactas	1 to 5 gr.	300
,, Oleatum, 1 in 4		249
,, Salicylas	2 to 6 gr.	300
,, *Sulphas*	1 to 5 gr.	300
,, ,, Acida	1 to 5 gr.	302
,, Sulphocarbolas	1 to 6 gr.	303
,, Valerianas	1 to 4 gr.	303
Quinidina		296
Quinidinæ Sulphas	1 to 20 gr.	296
Quinidine		296
Quinine Acid Sulphate	1 to 5 gr.	303
,, Disulphate	1 to 5 gr.	300
,, *Sulphate*	1 to 5 gr.	300
Quinoidina	1 to 5 gr. or more	303
Rattlesnake Poison		338
Rectal Etherisation		68
Red Gum	2 to 6 gr.	178
Remijia Purdieana		130
,, Pedunculata		130
Resina Podophylli	1-30 to 1-15 gr. frequently ¼ to 1 gr. single dose	288
Resorcin	5 to 15 or 30 gr.	304
Rhamni Frangulæ Cortex		305
,, *Purshianæ Cortex*		305
Rhei Radix	2 to 20 gr.	
Rhein	1·5 to 2 gr. or more	127
Rhigolene		154
Rhus Toxicodendron		306
,, Aromatica		306
,, Glabra		306
Rosaniline, Hydrochlorate of	½ to 4 gr.	190
Roseine	½ to 4 gr.	190
Rubini's Solution of Camphor	2 to 5 m.	109
Rumicin	1 to 4 gr.	307
Sabadilla		332
Sabinæ Cacumina	4 to 10 gr.	
Saccharated Wheat Phosphates		276
Sal Alembroth		203
Salicifrice		59
Salicinum	3 to 20 gr.	57
Salicylate of Camphor	1 to 5 gr.	111
,, Iron	2 to 10 gr. or more.	56
,, Sodium	10 to 30 gr.	57
Salicylated Camphor Wool, 8 per cent.		111
,, Collodion		154
Salicylic Acid	5 to 30 gr. or more	55
,, ,, Ointment, 1 in 30		59
,, ,, Cream, 1 in 6½		59

Name.	Dose.	Page
Salicylic Acid Plaster	...	58
,, Silk	...	58
,, Suet	...	59
,, Wool (Thiersch), 1 in 25	...	59
Sandal Wood Oil...	10 to 30 m.	255
Sanguinaria	...	307
Sanguinarin	¼ to 1 gr.	307
Sanguis Bovinus Exsiccatus	...	182
Sanitas	...	206, 284
Santonica ...	10 to 60 gr.	307
Santoninum	... 2 to 6 gr.	307
Sapo Kalinus	...	309
,, Thymol	...	328
,, Viridis	...	349
Saponine ...	...	44
Sarracenia Purpurea	...	340
Sassy Bark	...	173
Scammoniæ Resina	... 3 to 8 gr.	
Scammonium	... 5 to 10 gr.	21
Scilla	... 1 to 3 gr.	309
Scillain	...	309
Scillipicrin	...	309
Scillitoxin ...	...	309
Sclerotic Acid	½ to ¾ gr.	173
Sclerotinic Acid ...	½ to ¾ gr.	173
Scopolia Japonica	...	340
Scopoline ...	...	340
Scotch Pine, or Fir	...	284
Scutellarin	... 1 to 5 gr.	310
Secale Cornutum...	10 to 30 gr.	173
Secalin	...	331
Seidlitz Powders ...	...	315
Selenite	...	226
Senna	10 to 30 gr.	46
Sethia Acuminata	...	341
Silicate of Potassium Solution	...	314
,, of Sodium Solution ...	...	314
Silk, Salicylic	...	58
Silver, Nitrate of ...	1-6 to 1-3 gr.	83
,, Nitrate, mitigated	...	83
,, *Oxide of* ...	½ to 2 gr.	
Simulo	...	340
Smelling Salts, Carbolized	...	40
Smilax Sarsaparilla	...	316
Snakeroot, Black	...	129
Snuff of Capsicum and Borax...	...	114
Soap, Green	...	309
Soap of Thymol ...	...	329

NAME.	DOSE.	PAGE
Socaloin	1 to 4 gr.	75
Soda Mint Tablets		320
,, *Tartarata*	2 to 4 dr.	
Sodii Arsenias	1-16 to 1-8 gr.	86
,, Benzoas	10 to 30 gr.	32
,, *Bicarbonas*	10 to 60 gr.	22
,, *Bromidum*	10 to 30 gr.	310
,, *Carbonas*	5 to 30 gr.	22
,, ,, *Exsiccata*	3 to 10 gr.	22
,, Chloras	10 to 30 gr.	311
,, *Chloridum*	10 to 240 gr.	
,, Citras	10 to 6 gr.	311
,, *Citro-Tartras Effervescens*	1 to 4 dr.	22
,, *Ethylas*		311
,, Hippuras	5 to 30 gr.	33
,, Hypobromitis Solutio		312
,, *Hypophosphis*	5 to 10 gr.	275
,, Hyposulphis	10 to 60 gr.	63
,, *Iodidum*	3 to 10 gr.	313
,, *Nitras*	5 to 30 gr.	22
,, Nitris	2 to 5 gr. increased	313
,, Permanganas		292
,, *Phosphas*	20 gr. to 1 oz.	313
,, ,, Effervescens	1 to 3 dr.	313
,, ,, Exsiccata	10 gr. to 4 dr.	313
,, *Salicylas*	10 to 30 gr.	57
,, Santonas	5 to 10 gr.	308
,, Silicas		314
,, *Sulphas*	2 to 8 dr.	314
,, ,, Effervescens	60 gr. or more.	315
,, ,, Exsiccata	½ to 4 dr.	314
,, Sulph-Icthyolas		45
,, Sulphindigotas		323
,, *Sulphis*	5 to 20 gr.	63
,, *Sulphocarbolas*	10 to 15 gr.	43
,, *Valerianas*	1 to 5 gr.	22
Sodio-Magnesii Sulphas Effervescens	60 gr. or more	315
Sodium Salts		310
Soluble Glass for Bandages		314
Solutio Sodii Salicylatis	1 to 3 dr.	57
,, Zinci Chloridi Antiseptica		335
Solution of Coal Tar		44
,, of Potassio-Mercuric Iodide		325
Sonstadt's Solution for Testing Gems		326
Spiritus Ætheris	30 to 90 m.	69
,, ,, *Compositus*	30 to 120 m.	70
,, ,, *Nitrosi*	½ to 2 dr.	22
,, *Ammoniæ Aromaticus*	½ to 2 dr.	22

NAME.	DOSE.	PAGE
Spiritus Ammoniæ Fœtidus	½ to 2 dr.	
,, *Armoraciæ Compositus*	1 to 2 dr.	
,, *Cajuputi*	½ to 1 dr.	
,, *Camphoræ*	10 to 30 m.	
,, Camphoræ Fortior	2 to 5 m.	109
,, *Chloroformi*	5 to 60 m.	125
,, *Cinnamomi*	30 to 60 m.	23
,, *Juniperi*	30 to 60 m.	
,, *Lavandulæ*	30 to 60 m.	
,, *Menthæ Piperitæ*	30 to 60 m.	
,, *Myristicæ*	30 to 60 m.	
,, Thymol	3 to 15 m.	328
Spokeshaved Cinchona Bark		135
Staining Preparations		344
Staphisagriæ Semina		164
Starch and Iodine Paste		219
,, Iodized	½ to 4 dr.	218
Stigmata Maidis		340
Stillingia		316
Stillingin	1 to 3 gr.	316
Stramonium		27, 164, 290
Strophantin	1-120 to 1-60 gr.	340
Strophanthus Hispidus		340
,, Kombé		340
Strychnine	1-30 to 1-12 gr.	316
Strychninæ Acetas	1-24 to 1-10 gr.	317
,, Nitras	1-24 to 1-10 gr.	317
,, Sulphas	1-24 to 1-10 gr.	318
,, ,, Acida	1-20 to 1-10 gr.	318
Styles of Boric Acid		34
Styptic Colloid		155
Sublimate Wood Wool, ½ per cent.		343
Succus Ari	1 dr.	330
,, *Belladonnæ*	2 to 15 m.	95
,, *Conii*	½ to 1 dr.	
,, Digitalis	3 to 10 m.	
,, Galii	1 to 2 dr.	338
,, *Hyoscyami*	½ to 1 dr.	
,, *Scoparii*	1 to 2 dr.	
,, *Taraxaci*	1 to 2 dr.	
Sugar Coating of Pills		253
Sugar in Urine, Tests for		332
Sulphide of Calcium	1-10 to 1 gr.	105
Sulphindigotate of Sodium		323
Sulphite of Sodium	5 to 20 gr.	63
Sulphocarbol		44
Sulphocarbolates		43
ulphur Præcipitatum	20 to 60 gr.	318

NAME.	DOSE.	PAGE.
Sulphur Sublimatum	20 to 60 gr.	318
Sulphurous Acid	30 to 120 m.	62
,, Anhydride		62
Suppositories with Cacao Butter, 15 gr. in each		
,, with Gelatine Basis, 20 gr. in each		
Suppositoria Acidi Borici, 3 gr.		34
,, ,, Carbolici, 1 gr.		41
,, ,, ,, *cum Sapone*, 1 gr.		23, 41
,, ,, *Tannici*, 3 gr.		
,, ,, ,, *cum Sapone*, 3 gr.		23
,, Atropinæ, 1-20 gr.		
,, Belladonnæ Ext., ½ gr.		95
,, Bismuthi Oxychloridi, 10 gr.		97
,, Chloral, 5 gr.		120
,, Cocainæ, ½ gr.		143
,, Gallæ, 5 gr.		
,, { Gallæ, 5 gr. Opii, 1 gr. }		
,, Hamamelin, 1 gr.		201
,, *Hydrargyri Unguenti*, 5 gr.		
,, *Iodoformi*, 1 gr., 3 gr., and 5 gr.		214
,, *Morphinæ*, ½ gr., also ¼ gr., and 1 gr.		239
,, *Morphinæ cum Sapone*, ½ gr.		23, 239
,, Opii, 1 gr.		
,, { *Plumbi Acetatis*, 3 gr. *Opii*, 1 gr. }		
,, Santonini	3 gr., 5 gr., and 6 gr.	303
,, Zinci Oleatis	5 gr.	
,, ,, Oxidi	5 gr.	
Surgical Dressings		342
Sweet Vernal Grass		80
Sylphium		326
Syrupus	1 or 2 dr.	
,, *Aurantii*	1 dr.	
,, *Aurantii Floris*	1 dr.	
,, Butyl Chloral	1 dr.	100
,, Calcii et Ferri Lactophosphatis	1 or 2 dr.	50
,, Calcii Lactophosphatis	1 or 2 dr.	50
,, ,, Hypophosphitis	1 or 2 dr.	275
,, *Chloral*	½ to 2 dr.	120
,, Codeinæ	1 dr.	152
,, Eucalypti Gummi	30 to 60 m.	179
,, Ferri Bromidi	1 dr.	182
,, Ferri Bromidi cum Quininâ	1 dr.	183
,, Ferri Bromidi cum Quininâ et Strychninâ, 1 dr.		183
,, Ferri Bromidi cum Strychninâ	1 dr.	183
,, Ferri Dialysati	1 dr.	186
,, Ferri et Manganesii Phosphas	1 dr.	187

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Syrupus Ferri et Quininæ Citratis ...	... 1 dr.	298
,, Ferri et Quininæ Iodidi... ...	1 dr.	300
,, Ferri Hypophosphitis ...	... 1 dr.	274
,, *Ferri Iodidi*	... 1 dr.	
,, *Ferri Phosphatis*	... 1 dr.	187
,, Ferri Phosphatis Compositus	... 1 dr.	187
,, Ferri, Quininæ et Strychninæ Phosph.	1dr.	188
,, *Hemidesmi*	... 1 dr.	
,, Hypophos. Co.	... 1 dr.	275
,, *Limonis*	... 1 dr.	
,, *Mori*	... 1 dr.	
,, *Papaveris*	... 1 dr.	
,, *Pruni Virginianæ*	... 1 dr.	293
,, *Rhœados*	... 1 dr.	
,, *Rhei*	... 1 to 4 dr	
,, *Rosæ Gallicæ*	... 1 dr.	
,, *Scillæ*	30 to 60 m.	
,, *Sennæ*	... 1 to 4 dr.	23
,, Sulphatum	... ...	107
,, *Tolutanus*	... 1 dr.	
,, *Zingiberis*	... 1 dr.	
Tabellæ Cocainæ	... 1-20 gr.	143
,, *Nitroglycerini*...	... 1 or 2	246
,, Pepsinæ	... ...	267
Tablets Compressed, list of	... ...	319
Tabloids of Cocaine Hydrochlorate ...	1-10 and 1-6 gr.	144
Talc	... ...	226
Tamarind	... 2 dr.	
Tannate of Cannabin	2 to 10 gr. increased	111
Tar	... 2 to 10 gr.	286
Tayuya	... ...	340
Tenax	... ...	286
Terchloride of Formyl...	... 1 to 10 m.	120
Terebena Pura	... 5 to 30 m.	320
Terebinthina Chia	... 5 to 10 gr.	321
Terebinthinæ Oleum	10 to 240 m.	
Terpene Hydrate	... 2 to 6 gr.	321
Terpin Hydrate	... 2 to 6 gr.	321
Test Papers for Urine	... ...	323, 325
Test Solutions	... ...	322
Tetrachloride of Carbon	... ...	115
Thallin	... ...	118
,, Sulphate	... ...	118
Thapsia Garganica	... ...	326
Theine	... ½ to 5 gr.	101
Theobromine	... 1 to 5 gr.	326
Thuja	... ...	327
Thymol	½ to 2 gr.	327

NAME.	DOSE.	PAGE
Thymol Gauze		328
,, Soap		328
,, Solution (Volckmann's)		327
Tinctura Aconiti	5 to 15 m., or 1 m. often	65
,, Aconiti Ferocis	1 minim hourly	337
,, Aconiti Heterophylli	10 to 60 m.	337
,, Aconiti (Fleming)	1 to 5 m.	66
,, Aconiti (Turnbull)	1 to 5 m.	66
,, Acteæ	15 to 60 m.	130
,, Agarici	20 to 60 m.	73
,, *Aloes*	1 to 2 dr.	
,, Alstoniæ Constrictæ	½ to 2 dr.	337
,, ,, Scholaris	1 to 2 dr.	337
,, Anacardii	2 to 10 m.	79
,, Anthemidis	3 to 10 m.	79
,, Anthoxanthi	2 to 6 m.	80
,, Apis Mellificæ	1 m. hourly	
,, Apocyni Cannabini	5 to 60 m.	81
,, *Arnicæ*	1 to 2 dr.	
,, *Asafœtidæ*	½ to 1 dr.	23
,, Asclepiadis Cornuti	5 to 40 m.	338
,, ,, Incarnatæ	5 to 40 m.	338
,, ,, Tuberosæ	5 to 40 m.	332
,, *Aurantii*	1 to 2 dr.	
,, ,, *Recentis*	1 to 2 dr.	
,, *Belladonnæ*	5 to 20 m.	96
,, *Benzoini Composita*	30 to 60 m.	
,, Boldoæ	10 to 20 m.	338
,, Bryoniæ	1 to 10 m.	99
,, *Buchu*	1 to 2 dr.	
,, Calendulæ		107
,, *Calumbæ*	½ to 2 dr.	
,, *Camphoræ Composita*	15 to 60 m.	
,, *Cannabis Indicæ*	5 to 20 m.	111
,, *Cantharidis*	5 to 20 m.	112
,, *Capsici*	3 to 20 m.	114
,, Capsici Concentrata, 1 in 3		115
,, *Cardamomi Composita*	½ to 2 dr.	
,, *Cascarillæ*	½ to 1 dr.	
,, *Catechu*	½ to 2 dr.	
,, *Chiratæ*	½ to 2 dr.	
,, *Chloroformi Composita*	5 to 60 m.	125
,, *Chloroformi et Morphinæ*	5 to 10 m.	125
,, *Cimicifugæ*	15 to 60 m.	130
,, *Cinchonæ Composita*	½ to 2 dr.	137
,, *Cinchonæ* (*Rubræ*)	½ to 2 dr.	137
,, *Cinnamomi*	½ to 2 dr.	23
,, *Cocci*	as colouring	

Name.	Dose.	Page
Tinctura Colchici Floris Recentis	10 to 30 m.	
,, *Colchici Seminum*	10 to 30 m.	
,, Colocynthidis, P.G.	3 to 15 m.	
,, *Conii*	20 to 60 m.	
,, Convallariæ	5 to 30 m.	157
,, Coto	10 to 20 m.	158
,, *Croci*	as colouring	
,, *Cubebæ*	½ to 2 dr.	
,, *Digitalis*	10 to 30 m.	
,, Droseræ Rotundifoliæ	5 to 15 m.	338
,, Elaterii Composita	10 to 30 m.	167
,, *Ergotæ*	15 to 60 m.	171
,, Erythrophlœi	5 to 10 m.	174
,, Eucalypti Foliorum	15 to 120 m.	177
,, Eucalypti Gummi	20 to 40 m.	179
,, Euonymi	10 to 40 m.	180
,, *Ferri Acetatis*	5 to 30 m.	23
,, *Ferri Perchloridi*	10 to 30 m.	24
,, *Gallæ*	½ to 2 dr.	
,, *Gelsemii*	5 to 20 m.	192
,, *Gentianæ Composita*	½ to 2 dr.	
,, Gossypii Radicis	1 dr.	200
,, *Guaiaci Ammoniata*	30 to 60 m.	
,, Guaranæ	30 to 60 m.	201
,, Hamamelidis	2 to 5 m.	202
,, Hydrastis	30 to 60 m.	206
,, *Hyoscyami*	30 to 60 m.	
,, Ignatii	3 to 20 m.	249
,, *Iodi*	5 to 20 m.	216
,, Iodi Decolorata		218
,, Iodi Oleosa		218
,, *Jaborandi*, 1 in 4	30 to 60 m.	221
,, *Jalapæ*	30 to 120 m.	
,, *Kino*	30 to 120 m.	24
,, Koromiko	½ to 1 dr.	339
,, *Krameriæ*	30 to 120 m.	
,, Lachnanthis	1 to 10 m.	339
,, *Laricis*	20 to 30 m.	24
,, *Lavandulæ Composita*	30 to 120 m.	
,, *Limonis*	30 to 120 m.	
,, *Lobeliæ*	10 to 30 m.	
,, *Lobeliæ Ætherea*	10 to 30 m.	
,, *Lupuli*	30 to 60 m.	
,, *Myrrhæ*	30 to 60 m.	
,, *Nucis Vomicæ*	5 to 20 m.	249
,, *Opii*	10 to 30 m.	24
,, *Opii Ammoniata*	30 to 60 m.	
,, *Phenol-phthalein*, as a Test		325

NAME.	DOSE.	PAGE
Tinctura Phosphori Composita	3 to 13 m.	272
,, *Podophylli*	15 to 60 m.	289
,, Podophyllin (Dobell)	1 dr.	289
,, Podophyllin Ammoniata	2 to 20 m.	289
,, Pruni Virginianæ	20 to 60 m.	293
,, Pulsatillæ	1 to 5 m. increased	294
,, *Pyrethri*		
,, *Quassiæ*	30 to 120 m.	
,, Quebracho	30 to 60 m.	295
,, *Quininæ*	30 to 120 m.	301
,, ,, *Ammoniata*	30 to 120 m.	302
,, *Rhei*	30 to 120 m.	
,, Rhois	1 to 5 m.	306
,, Rumicis	1 to 10 m.	307
,, *Sabinæ*	20 to 60 m.	
,, *Scillæ*	10 to 30 m.	
,, *Senegæ*	30 to 120 m.	
,, *Sennæ*	1 to 4 dr.	
,, *Serpentariæ*	30 to 120 m.	
,, *Stramonii*	10 to 30 m.	
,, *Sumbul*	10 to 30 m.	24
,, Tayuyæ	6 to 15m. increased	340
,, Thujæ	2 to 5 m.	327
,, *Tolutana*	20 to 40 m.	
,, *Valerianæ*	30 to 120 m.	
,, ,, *Ammoniata*	½ to 1 dr.	
,, *Veratri Viridis*	5 to 20 m.	332
,, Verbasci	20 to 60 m.	334
,, *Zingiberis*	15 to 60 m.	
,, *Zingiberis Fortior*	5 to 20 m.	
Tonga	1 to 2 dr.	329
Tonka Bean		159
Tonquin Bean		159
Toughened Caustic		84
Tragacantha	2 to 10 gr.	330
Traumaticin		128
Trianosperma Ficifolia		340
Trichlorphenol		45
Trimethylamina	20 to 60 m. of solution	331
Trimethylaminæ Hydrochloras	2 to 3 gr.	331
Trinitrophenic Acid	¼ to 2 gr.	53
Triticum Repens		340
Trochisci (Medicated Lozenges), F. with Fruit Paste, S. with plain sugar :—		
Acidi Benzoici, S. and F., ½ gr. (Stimulant Voice Lozenge), T.H.	1 every 4 hours	32
Acidi Carbolici, S., 1 gr., T.H.	4 or 5 daily	41
,, Citrici (Acid Lemon Drops)	*ad libitum*	

Name.	Dose.	Page
Trochisci (Medicated Lozenges) F. with Fruit Paste, S. with Plain Sugar:—		
Acidi Tannici, S., ½ gr.... ...	...1 frequently	
,, Tannici, F. 1½ gr., T.H.	1 every 3 or 4 hours	
,, Tannici et Capsici, F. ...	...1 frequently	
Aconiti, F., Tinct. ½ m., T.H.	1 every ½ hour	
Althææ (Pastilles de Guimauve), T.H.	*ad libitum*	
Aluminis, S., 1 gr.	1 or 2 after meals	
Ammonii Chloridi, F. 2 gr., T.H.	1 every 3 hours	76
Apomorphinæ, 1-50 gr.	every 2 hours	82
Bismuthi, S., 2 gr.	1 or 2 after meals	98
Boracis, F., 3 gr., T.H....	1 every 3 or 4 hours.	
,, et Potassæ Chloratis, F.	,, ,,	
Camphoræ, S.	1 frequently	109
Capsici, S. (and as Voice Jujubes) ...	,,	
Carbonis S. (Willow Charcoal)	1 or 2 after meals	
Carnis (Meat Lozenges)	*ad libitum*	181
Catechu, F., 2 gr., T.H. ...	1 every 3 hours	
Catechu, S., 1 gr.	,,	
Codeinæ, 1-8 gr., S.	4 or 5 daily	152
Cubebæ, F., 3 gr., T.H....	1 every 3 or 4 hours	
Eucalypti Gummi, F., 1 gr. ...	1 after meals	179
,, Compositi, F., 1 gr. ...	4 or 5 daily	180
Ferri Redacti, S., 1 gr.	1 or 2 after meals	
Gelatinæ	*ad libitum*	
Glycerini (Jujubes or Pastils) ...	*ad libitum*	
Glycyrrhizæ (Pontefract Cakes or Pipes)		193
Guaiaci, F., 2 gr., T.H.... ...	... 3 to 6 daily	
Guaiaci, S., 2 gr.	...	
Hydrargyri Subchloridi, S., 1 gr. and 2 gr....	...	
Ipecacuanhæ, S., ¼ gr.... ...	... 4 or 5 daily	
Ipecacuanhæ, S., 1 gr.	... 2 or 3 daily	
Kino, F., 2 gr., T.H. ...	1 every 3 or 4 hours	
Krameriæ, F., Ext. 3 gr., T.H.	1 ,, ,, ,,	
Lactucæ, F., Ext., 1 gr., T.H.	1 ,, 1 or 2 ,,	
Lavandulæ, S.	... *ad libitum*	
Menthæ Piperitæ	... ,, ,,	
,, ,, Fortior ...	... ,, ,,	
Morphinæ, S., 1-36 gr.	... 4 or 5 daily	240
Morphinæ, F., 1-36 gr.... ...	... ,, ,, ,,	240
Morphinæ, 1-36 gr., *et Ipecacuanhæ*, 1-12 gr., S. (and F., unofficial)	... 4 or 5 daily	240
Morphinæ 1-40 gr., & Emetin, 1-80 gr., S.	,, ,, ,,	170
Moschi, S.	... *ad libitum*	
Nitroglycerini, 1-200 gr., 1-100 gr., 1-75 gr. 1-50 gr., 1-25 gr.	... ..	246
Opii S., Ext. 1-10 gr. (and Liquorice),	2 to 6 daily	
Paregoric, S.	... 2 ,, 6 ,,	

NAME.	DOSE.	PAGE.
Trochisci (Medicated Lozenges) F. with Fruit Paste, S. with Plain Sugar :—		
Potassii Chloratis, S., 5 gr.	3 to 6 daily	24
,, Chloratis, S. (Codex), 3 gr.	3 ,, 6 ,,	
,, Chloratis, F., 3 gr., T.H.	3 ,, 6 ,,	
,, Citratis, F., 3 gr., T.H.	3 ,, 6 ,,	
,, Nitratis, S., 3 gr.	3 ,, 6 ,,	
,, Tartratis Acidæ, F., 3 gr., T.H.	3 ,, 6 ,,	
Pyrethri, F., 1 gr., T.H.	3 ,, 6 ,,	
Rhamni Frangulæ (Aperient Fruit Lozenges)	1 to 2	305
Rhei Zingiberis et Cardamomi (Digestive Tablets)	1 or 2 after meals	
Ribis Nigri (Fruit Lozenges)	*ad libitum*	
Rosæ, S.	,, ,,	
Santonini, S., 1 gr.	1 or 2 at bedtime	308
Sedative, F., Ext. Opii 1-10 gr., T.H.	3 to 6 daily	
Sodii Bicarbonatis, S., 5 gr.	1 or 2 after meals	24
,, et Zingiberis, S.	1 or 2 ,, ,,	
,, Chloratis, F. and S., 3 gr., 3 to 6 daily		311
Tolutani, S.	*ad libitum*	
Zingiberis, S.	,, ,,	
Tropæoline OO		326
Tropic Acid		87
Tropin		87
Trypsin		256
Turnbull's Tincture of Aconite	1 to 5 m.	66
Turner's Cerate		227
Turpentine, Oil of	10 m. to 4 dr.	
,, French Oil	30 m. every ½ hour	268
Unguentum Acidi Borici, Nos. 1, 2 and 3, 1 in 6		34
,, ,, Borici (Lister), 1 in 6		34
,, ,, *Borici*, 1 in 7		34
,, ,, *Carbolici*, 1 in 20		41
,, ,, Chrysophanici, 20 gr. in 1 oz.		127
,, ,, Pyrogallici, 60 gr. to 1 oz.		54
,, ,, *Salicylici*, 1 to 28		59
,, *Aconitinæ*, 1 in 60		65
,, *Antimonii Tartratis*, 1 in 5		
,, *Atropinæ*, 8 gr. in 1 oz.		90
,, ,, cum Vaselino, 1 in 60		90
,, *Belladonnæ*, 80 gr. in 1 oz.		96
,, Bismuthi Oxychloridi, 30 gr. in 1 oz.		97
,, Cadmii Iodidi, 1 in 8		24
,, *Calaminæ*		227
,, *Cantharidis*, 1 in 8		112
,, *Cetacei*		25

	NAME.	DOSE.	PAGE
Unguentum	*Chrysarobini*, 1 in 10		127
,,	Cocainæ, 1 in 30		143
,,	*Creasoti*, 60 m. in 1 oz.		161
,,	Creasoti Forte, 2 parts in 3		161
,,	Cucumis		162
,,	Cupri Oleatis		250
,,	Diachyli		253
,,	*Elemi*, 1 in 5		
,,	*Eucalypti*, 1 (oil) in 5		177
,,	*Gallæ*, 1 in 6½		
,,	,, *cum Opio* 1 (opium) in 15		
,,	*Glycerini Plumbi Subacetatis*		196
,,	Gynocardiæ, 1 in 4		255
,,	Hamamelidis, 1 (tincture) to 10		202
,,	*Hydrargyri*, 1 in about 2		
,,	,, Oxidi Flavi, 1 in 60 Vaseline		204
,,	,, *Ammoniati*, 1 in 8		25
,,	,, *Compositum*		
,,	,, *Iodidi Rubri*, 16 gr. in 1 oz.		
,,	,, *Nitratis*		
,,	,, ,, *Dilutum*		25
,,	,, Oxidi Flavi, 1 in 16		204
,,	,, ,, *Rubri*, 1 in 8		25
,,	,, *Subchloridi*, 80 gr. in 1 oz.		25
,,	*Iodi*, 16 gr. in 1 oz.		216
,,	*Iodoformi*, 1 in 10		214
,,	,, et Eucalypti, 1 in 50		214
,,	,, Rosatum, 5 gr. in 1 oz.		215
,,	Kaolin		226
,,	Olei Cadini, 1 in 2		287
,,	Paraffinum		260
,,	Petrolei		264
,,	*Picis Liquidæ*, 5 to 7		287
,,	Plumbi, U.C.H.		253
,,	*Plumbi Acetatis*, 12 gr. to 1 oz.		
,,	,, *Carbonatis*, 1 in 8		
,,	,, *Iodidi*, 1 in 8		
,,	,, Oleati		252
,,	,, *Subacetatis Compositum*		
,,	*Potassæ Sulphuratæ*, 30 gr. in 1 oz.		25
,,	*Potassii Iodidi*, 1 in 8		25
,,	*Resinæ*		25
,,	*Sabinæ*		25
,,	*Simplex*		25
,,	*Staphisagriæ*		25
,,	Styracis (Storax 1, S.V.R. 1, Lard 3), for Scabies		
,,	*Sulphuris*, 1 in 5		319

NAME.	DOSE.	PAGE
Unguentum Sulphuris cum Hydrargyro		319
,, ,, Hypochloritis		319
,, ,, *Iodidi*, 30 gr. in 1 oz.		319
,, *Terebinthinæ*		
,, Thymol		328
,, Vaselini Plumbicum		253
,, *Veratrinæ*, 8 gr. in 1 oz.		25, 333
,, *Zinci*, 80 gr. in 1 oz.		
Unguentum Zinci Oleati		254
,, ,, ,, Durum		254
Uranii Nitras	½ to 5 gr.	332
Urari	1-20 to ½ gr.	162
Urethane	16 gr.	341
Urine, Test Papers		325
Urtica Dioica		341
Ustilago Maidis		340
Uterine Points		336
Uva Ursi		337
Valangin, De, Mineral Solvent		85
Valentine's Meat Juice		182
Vapor Acidi Carbolici		41
,, Aldehydi		74
,, *Coninæ*		26, 156
,, *Creasoti*		161
,, Iodi Ætherealis		219
,, *Olei Pini Sylvestris*		285
,, Terebenæ		320
,, Thymol		328
Varnishing Pills		282
Vaseline		261
Vaselinum Album		261
,, Cocainæ, 4 per cent.		143
Veratri Viridis Rhizoma	1 to 5 gr.	332
Veratrina	1-70 to 1-16 gr.	332
Veratrinæ Oleatum		333
Verbascum Thapsus		334
Veronica Salicifolia		339
Viburnum Opulus		341
,, Prunifolium		341
Vienna Paste		312
Vinca Major		341
Vin de Quinquina	1 to 4 dr.	137
Vinum Aloes	1 to 2 dr.	
,, *Antimoniale*	5 to 60 m.	
,, *Colchici*	10 to 30 m.	
,, *Ferri*	1 to 4 dr.	
,, *Ferri Citratis*	1 to 4 dr.	

NAME.	DOSE.	PAGE
Vinum Ipecacuanhæ	5 to 40 m. expectorant 3 to 6 dr. emetic	26
,, *Opii*	10 to 40 m.	
,, Pepsinæ	1 to 2 dr.	267
,, *Quininæ*	2 to 8 dr.	302
,, *Rhei*	1 to 2 dr.	
Viola Tricolor	10 to 60 gr.	341
Violin		341
Viscum Album	10 to 60 gr.	341
Vlemingkx' Solution		106
Volckmann's Solution of Thymol		327
Volumetric Solution of Iodine		216
Warburg's Fever Tincture	1 to 4 dr.	302
Wheat Phosphates, Saccharated		276
White Agaric	10 to 30 gr.	73
White Quebracho Bark		295
Wine of Cinchona	1 to 4 dr.	137
Wine of Coca	½ to 2 oz.	140
Winter Bloom		201
Witch Hazel		201
Wool, Absorbent		199
Wools, Medicated		199
Wourara	1-20 to ½ gr.	162
Wrack, Bladder		190
Yerba Santa		341
Zanaloin	1 to 4 gr.	75
Zinc Cream		264
Zinci Acetas	1 to 2 gr.	
,, Bromidum	3 to 10 gr.	334
,, *Chloridum*	½ to 1 gr.	334
,, Citras	3 to 12 gr.	336
,, Lactas	3 to 30 gr.	336
,, Oleas		253
,, *Oleatum*		253
,, *Oxidum*	2 to 10 gr.	226
,, Permanganas		292
,, Phosphidum	1-20 to 1-3 gr.	272
,, *Sulphas*	1 to 3 gr. tonic 10 to 30 gr. emetic	
,, ,, Uterine Points		336
,, Sulphatis Lotio Rubra		336
,, *Sulphocarbolas*		44
,, Unguenti Emplastrum		343
,, *Valerianas*	1 to 3 gr.	336
Zingiber	5 to 15 gr.	193

THERAPEUTIC INDEX
OF
DISEASES AND SYMPTOMS.

N.B.—The Remedies are arranged in Alphabetical order.

Acne.—*Internal*—Calx Sulphurata, Hypophosphites, Iron Salts, Potassii Bromid., Quininæ et Ferri Citras, Sodii Bromid., Sulphur.—— *Local*—Chrysarobini Ung., Calaminæ Lotio, Belladonna, Hydrarg. Perchlorid. Lotio, Icthyol, Sulphur. Iodid. Ung., Sulphur. Hypochloritis Ung., Thymol Ung.

Ague.—Acid. Salicylic. and Salicin, Apiol, Arsenic, Chinolinum, Cinchonina, Cinchonidinæ Sulphas, Eucalyptus Globulus, Hydrastis, Narcotina, Pilocarpine, Quinetum, Quininæ Sulph., Quininæ Hydrobrom., Quinidinæ Sulph., Sodii Hyposulph., Warburg's Tincture.

Albuminuria.—Acid. Gallic., Fuchsine, Jaborandi and Pilocarpine, Ozonic Ether.

Alcoholism.—Arsenic, Capsicum, Cinchona rubra, Hydrastis, Lupulin, Morphina, Nux Vomica, Phosphorus, Picrotoxin, Quinine preps., Strychnine.

Alopecia.—*Internal*—Pilocarpine, Strychnine.——*Local*—Ammon. Liquor, Cantharides preps., Iodum, Nuc. Vomic. Tinct., Petroleum Spirit, Pilocarpine Nitrate Solution.

Amenorrhœa.—Actæa and Cimicifugin, Aloes, Apiol, Caulophyllin, Ergota, Gossypii Rad. Cortex, Iron Salts, Manganesii Oxidum, Menyanthes, Phosphas and Sulphas, Potass. Permang., Pulsatilla, Thuja.

Anæmia.—Arsenic, Calcii Phosph., Calcii Hypophosph., Ferri Bromid., Ferri Chloroxid. Liquor, Ferrum Dialysat., Ferri Hypophosph., Ferri Perchlorid., Ferri Phosph., Ferri Sulph., Pil. Ferri Carb. (Blaud), and Pil. Ferri Sulph., Phosphorus, Quinine preps., Sodii Hypophosphis.

Anæsthetics by inhalation.—A.C.E., Æther, Æthyl Bromid., Æthyl Iodid., Carbon. Tetrachlor., Chloramyl, Chloroform, Ethideni Dichlorid., Iso-Butyl Chlorid., Methylene, Nitrous Oxide Gas.

Anæsthetics, Local.—Æther, Cocaine Salts, Ice, Menthol, Methyl Chloride, Rhigolene.

Aneurism.—Aconite, Amyl Nitris (?), Digitalis, Ergotina, Nitroglycerine (?), Potassii Iodidum.

Angina Pectoris.—Æther, Æthyl Iodid., Amyl Nitris, Arsenic, Morphinæ inj. hypod., Nitroglycerini Liquor and Tabellæ, Phosphorus, Sodii Nitris.

Anthelmintics.—See **Parasites, Intestinal.**

Aphthæ.—*Internal*—Acid. Nit. Dil., Potass. Chloras, Sodii Chloras.——*Local*—Acid. Boric., Acid. Sulphuros., Alumen, Bismuth, Borax, and Glyc. of, Potass. Chloras, Potass. Permang., Sodii Chloras., Sodii Chlorinat. Liquor.

Asthma.—*Internal*—Æthyl Iodid., Amyl Nitris, Antimony, Arsenic, Belladonna, Caffeine, Cannabis, Cannabin Tannas, Chloral Hydras, Chloroform, Colchicum and Colchicin, Coca, Daturine, Delphinia, Euphorbia pilulifera, Grindelia, Jaborandi, Lobeliæ Tinct. and Tinct. Ætherea, Nitroglycerine, Pilocarpine, Quebracho, Stramonium.——*Local*—Acid. Sulphuros. Vapor, Arsenical Cigarettes, Chloroform Vapor, Eucalyptus leaves smoked, Potass. Nit. fumus, Pyridine, Stramonium fumes, Tobacco fumes, Bliss', Green Mountain, and Himrod's Cures by fumes.

Bed Sores.—*Local*—Acid. Tannic. Glycerin., Alcohol, Argent. Nit. in Nitrous Ether solution, Brandy, Glycerine, Iodoform. Gossyp. and Ung., Peruv. Bals., Tannin Iodoform and Starch Powder.

Bile, Deficiency of.—Hydrarg. cum Cretâ, Sodii Phosph. Efferves., Sodii Sulph. Efferves., Taraxacum.

Biliousness.—Euonymin, Hydrastis and Hydrastin, Iridin, Juglandin, Leptandrin, Podophyllin, Sanguinarin, Seidlitz Powders, Sodii Phosph. Efferves., Sodii Sulph. Efferves., Sodio-Magnes. Sulph. Efferves., Stillingia.

Bites and Stings.—*Local*—Alcohol, Ammon. Liquor, Arnicæ Tinct., Chloroform, Cocainæ Hydroch. Liquor, Onion Juice, Potass. Permang. (for Serpent's venom), Sodæ Bicarb., Thymol and Starch powder, Thymol Ung.

Bladder, Catarrh of.—See **Catarrh, Vesical.**

Boils and Carbuncles.—*Internal*—Alkalies, Arsenic, Calx Sulphurata, Ferri Perchlorid., Hypophosphites, Sulphides, Sulphurous Waters, Syr. Sulphatum, Yeast.——*Local*—Argent. Nit., Belladonnæ Glycerin. (as pigment and on poultices), Collodium, Fermenti Cataplasma, Opii Ext.

Brain, Softening of.—Hypophosphites, Iron Salts, Morrhuæ Ol., Phosphorus.

Breast, Inflammation of.—*Local*—Belladonnæ Ext. Glycerin. and Linim.

Breath, Fetid.—*Local*—Acid. Salicylic., Calcii Permang., Camphora, Creasoti Vapor, Myrrh with Borax Tincture, Sanitas (Toilet).

Bright's Disease.—Alkalies, Cannabis, Digitalis, Elaterium, Hydrastis, Jaborandi and Pilocarpine, Nitroglycerine, Potass. Iodid., Scoparii Succus.

Bronchitis, Acute.—Aconite, Ammon. Acet. Liquor, Antimony, Ipecacuanha, Pulsatilla.

Bronchitis, Chronic.—*Internal*—Ammon. Carb., Ammon. Chlorid., Apomorph. Hydrochl., Arsenic, Benzoates and Benzoin. Tinct., Eucalyptus Globulus, Grindelia, Morphine preps., Morrhuæ Ol., Piscidia, Prunus Virginiana, Pulsatilla, Scilla, Senega, Tar, Tolu. Bals.——*Local*—Acid. Carbolic. Vapor, Acid. Sulphuros. Vapor, Creasoti Vapor, Croton Ol. cum Collod., Croton Linim., Iodi Linim., Iodi Vapor.

Bruises.—*Local*—Arnicæ Tinct. (well diluted), Calendula, Hamamelis, Hazeline.

Burns and Scalds.—*Local*—Acid. Boric Ung., Calamin. Cerat., Chartazine, Cocainæ Ceratum, Iodoform., Lini. Ol. cum Aquâ Calcis, Thymol. Ung., Vaseline, Zinci Oleat. Ung., Zinci Ung.

Bubo.—*Local*—Chlori Aqua, Hydrarg. Oleat., and cum Morphinâ, Hydrarg. Ung., Hydrogen. Peroxid.

Calculi, Urinary.—Alkaline Carbonates, Ammon. Benz. and Phosph., Calcis Aqua, Lithium preps., Mineral Acids (for Phosphatic), Potass. Citras, Sodii Benz. and Hippuras.

Cancer.—*Internal*—Arsenic preps., Calx Sulphurata, Chloral Hydras and Opium preps. (as sedatives), Terebinth. Chia.——*Local*—Acid. Carbolic. (caustic), Acid. Carbolic. Glycerin., Acid. Chromic., Acid. Salicylic. cum Oleo, Bromum cum Acid. Oleic., Hydrarg. Nit. Acid. Liquor, Iodoform., London Paste, Morphine, Morphinæ Oleat., Quininæ Salicylas, Tannin and Opium, Vienna Paste, Zinci Chlorid. and Paste.

Carbuncles.—See **Boils.**

Caries.—Calcii Chlorid., Calcii Hypophosph., Calcii Phosph., Saccharated Whea Phosphates.

Catarrh, Bronchial.—Aconite, Actæa, Aldehyd. Vapor, Ammon. Chlorid., Antim. Tart., Ferrier's Snuff, Prunus Virginiana, Pulsatilla, Sinapis Emplast., Spt. Æther. Nitros.

Catarrh, Gastro-intestinal.—Bismuth preps., Caffeine, Eucalyptus Globulus, Hydrastis, Hydrocyanic Acid, Salines.

Catarrh, Vesical and **Cystitis.**—Acid. Lactic, Alkalies, Benzoates, Buchu, Eucalyptus Globulus, Gokhru, Hydrastis, Juniper, Pareira, Triticum repens.

Catarrh, Nasal.—Acid. Carbolic. Buginarium, Bismuth. Co. Pulv., Carbolised Smelling Salts, Iodoformi Buginarium and Ung. Rosatum.

Catarrh, Uterine.—*Local*—Acid. Carbolic. Glycerin., Boracis Glycerin., Camphorated Carbolic Acid, Iodoform. Gossyp. and Pessus, Plumbi Subacet. Glycerin., Opii et Amyli Enema, Zinci Sulph. Uterine Pencils, and with Alum.

Chancres, Soft.—*Local*—Hydrarg. Flav. Lotio, Hydrarg. Nig. Lotio, Hydrarg. Subchlor., Iodoform. and Ung., Plumbi Acet. Lôtio, Resorcin.

Chapped Skin.—*Local*—Acid. Boric. Ung., Camphor Ball, Ceratum Petrolei, Collodium, Glycerin. cum Aquâ Rosæ, Vaseline.

Chilblains.—*Local*—Acid. Boric. Ung., Acid. Carbolic. Ung., Aconit. Linim., Belladonnæ Linim. and Linim. Co., Cajeput Ol., Capsici Linim., Eucalypti Ol. Ung., Iodi Tinct. Decolor., Iodi Ung., Iodoform Wool and Ung., Oleanodyne, Plumbi Subacet. Glycerin., Glycerini Plumbi. Subacet. Ung.

Chloasma.—See **Tinea Versicolor.**

Chlorosis.—Arsenic, Ferri Amara Mist., Ferri Aper. Mist., Ferri Co. Mist., Ferri Carb. Pil. (Blaud), Ferri Dialysat. Liq., Ferri Perchlorid. Tinct., Ferri Sulph. Pil., Hypophosphites, Myrrh et Aloes Pil., Phosphorus.

Cholera.—Camphora, Chloromorphiæ Liq., Copper Salts, Coto and Cotoin, Hydrarg. cum Cretâ, Hydrarg. Subchlorid. cum Opio, Morphina, Opium, Paracotoin, Plumbi Acet., Plumbi cum Opio Pil.

Chordee.—Aconite, Belladonna, Bromides, Camphora, Cannabis, Canthar. Tinct. (one minim hourly), Chloral Hydras Morphinæ inj. hypod., Opii Suppos.

Chorea.—Actæa, Arsenic, Calcii Chlorid., Chloral Hydras, Cimicifugin, Conium and Coniæ Hydrobrom., Curara, Ergota, Ferri Bromid., Ferri Phosph., Morrhuæ Ol., Phosphorus, Physostigma and Physostigmine, Strychnine, Valerianates, Zinci Bromid. and Oxid.

Colic.—Æther, Belladonna, Calcis Aqua (for infants), Cajeput Ol., Camphora, Chloroform, Chloromorphiæ Liq., Menth. Pip. Ol., Morphine preps., Opium preps.

Collapse and Fainting.—Æther inj. hypod., Æther. Spt., and Spt. Co., Alcohol, Ammon. Arom. Spt., Ammon. Vapor, Amyl Nitris., Digitalis Tinct. and Inj. Hypod. 20 m.

Conjunctivitis.—*Local*—Acid. Boric., Alumen, Belladonna, Boroglyceride, Hydrarg. cum Morphinâ Oleat., Hydrarg. Oxid. Flav. Ung., Hydroquinone, Opii Vinum, Resorcin, Zinc. Sulph. Lotio.

Conjunctivitis, Diphtheritic. — *Local* — Quininæ Sulph. Lotio., Hydroquinone, Resorcin.

Constipation.—Aloes and Aloin, Belladonna, Cascara, Coloc. Co. Pil., Coloc. Co. cum Hyoscy. Pil., Emblic Myrabolans, Glycyrrh. Co. Pulv., Hydrarg. Subchlorid., Iridin, Juglandin, Magnes. Sulph., Nux Vomic., Podophyllin, Rhamnus Frangula, Rhei Co. Pil., Rhei Co. Pulv., Ricini Ol., Scammon. Co. Pil., Seidlitz Powders, Senna, Sennæ Confect., Sennæ Co. Mist., Sodii Phosph. Efferves., Sodii Sulphas Efferves., Sodio-Magnes. Sulph. Efferves., Sulphur, Sulphur. Confect.

Convulsions. — Amyl Nitris, Anæsthetics, Camphor. Monobrom., Chloral Suppos., Morphine preps., Podophyllin, Potassii Bromid., Sodii Bromid., Sodii Nitris.

Convulsions, Puerperal.—Anæsthetics, Chloral Hydras, Nitroglycerine, Pilocarpine.

Cornea, Inflammation, and Ulcers of.—*Local*—Atropine, Belladonna, Cocain. Hydroch. Liquor, Daturine, Duboisine, Eserine, Hydroquinone, Pilocarpine, Hydrarg. Oxid. Flav. Ung., Hydrarg. Subchlorid.

Corns.—See **Warts.**

Coryza.—See **Catarrh Nasal,** and **Hay Fever.**

Cough.—Acid. Hydrobromic., Belladonna, Benzol, Bryonia, Camphor. Co. Tinct., Chloral Hydras, Codeina, Conium, Gelsemium, Helenin, Hyoscyamus, Morphinæ Linctus, Morphinæ Troch., Morphinæ et Ipecac. Troch., Narceina, Opium preps., Picis Liq. Pil., Piscidia, Prunus Virginiana, **Terpin Hydrate.**

Croup, True.—*Internal*—Acid. Lactic., Aconite and Aconiti Pastillus, Alumen, Ammon. Carb., Antimony, Bromides, Calcii Sulphid., Ipecacuanha, Zinci Sulph.——*Local*—Acid. Lactic. Nebula, Acid. Sulphuros. Nebula, Acid. Tannic. Nebula, Calcis Aquæ Nebula.

Croup, False.—See **Laryngismus Stridulus.**

Debility.—Alcohol, Arsenic preps., Calcii Phosph., Calumba, Cinchona preps., Gentiana, Hypophosphites, Iron Salts, Maltum, Morrhuæ Ol., Phosphorus, Quassia, Quinine preps., Strychnine.

Delirium Tremens, and see **Alcoholism.**—Alcohol, Ammon. Carb., Bromides, Camphora Monobromata, Capsicum, Chloral, Digitalis, Hyoscyamine, Opium preps., Phosphorus, Quinine preps., Strychnine, Veratrum viride.

Diabetes.—Acid. Lactic., Codeina, Convallaria, Glycerine, Hydrogen Peroxide, Jaborandi, Opium, Oxygen, Ozonic Ether, Sodii Salicylas, Thymol, Sodii Arsenias, Uranii Nitras.

Diarrhœa.—*Internal.*—Acid. Carbolic., Acid. Gallic., Acid. Sulph. Dil. and Aromat., Agaricus albus and Agaricin, Anthemis, Bismuth preps., Calcis Aqua, Calcis Carb., Camphora, Catechu, Coto Tinct., Cotoin, Cretæ Arom. Pulv., and cum Opio, Cupri Sulph., Eucalyptus Gum., Ferri Pernit. Liq., Guarana, Hydrarg. cum Cretâ, Ipecac. Co. Pulv., Kino, Leptandrin, Myricin, Opium preps., Plumbi Acet., Podophyllin, Ricini Ol.——*Local*—Acid. Tannic. Suppos., and cum Opio, Amyli Enema, and cum Opio, Gallæ Suppos. and cum Opio, Turpentine Stupes.

Diphtheria.—*Internal*—Acid. Salicylic., Calx Sulphurata, Ferri Perchlorid., Pilocarpine, Sodii Hyposulphis., Sodii Chloras.——*Local*—Acid. Benzoic. Nebula, Acid. Carbolic. Glycerin. and Nebula, Acid. Lactic. Nebula, Acid. Sulphuros. Nebula, Argent. Nit., Calcis. Aquæ Nebula, Chinoline, Chlori Aqua, Eucalypti Ol. and Vapor, Hydroquinone, Papayotin, Pepsin. Glycerin. Acid., Resorcin, Sodii Benzoatis Nebula, Sodii Chlorinat. Liquor.

Dipsomania.—See **Alcoholism.**

Dropsy, Cardiac.—Asparagin, Caffeine, Convallaria majalis, Delphina, Digitalis, Digitalin, Elaterium, Erythrophlœum, Strophanthus, Veratrum Viride.

Dropsy, Hepatic.—Ammon. Benzoas, Ammon. Chlorid., Copaibæ Bals., Hydrarg. Pil., Hydrarg. Subchlorid., Sodii Bicarb., Taraxacum.

Dropsy, Renal.—Apocynum Cannabinum, Buchu, Delphinia, Elaterium, Hydrarg. Pil., Jalapa, Juniperus, Pilocarpine, Potass. Acet., Potass. Tart. Acida, Potassii Iodid., Potass. Nit., Scilla, Sodii Iodid.

Dysentery.—Belæ Fructus, Eucalypti Gum., Guarana, Hæmatoxylum, Hamamelis, Hydrarg. Perchlorid., Ipecacuanha, Ipecac. Co. Pulv., Opium, Plumbi Acetas, Terebena pura, Terebinth. Ol., and Stupes of.

Dysmenorrhœa.—Actæa, Æther Spt. cum Opii. Tinct., Amyl Nitris, Anemonin, Apiol, Cannabis and Cannabin Tannas, Carbon. Tetrachlor. Vapor, Cimicifugin, Croton Chloral, Gossypii Rad. Cort., Potass. Bromid., Pulsatilla, Serpentaria, Valerian.

Dyspepsia.—Acid. Carbolic. Perle and Pil., Acid. Nit. Dil., Acid. Hydroch. Dil., Aloes and Aloin, Ammon. Carb., Argent. Nit. and Oxid., Arsenic, Belladonna, Bismuth. Carb. Oxychlorid. and Subnit., Capsicum, Cerii Oxalas, Creasote, Emblic Myrabolans, Gentiana, Gingerin, Hydrarg. cum Creta, Hydrastis, Hydrocyanic Acid, Leptandrin, Malti Ext., Menispermin, Nux Vomica, Pancreatin, Papayotin, Pepsin, Podophyllin, Quinine preps., Rhei Rad., Rumicin, Salicin, Sanguinarin, Sodii Bicarb., Sodii Sulphocarb., Stillingia.

Dyspnœa.—Æther Spt., Æthyl Iodid., Alcohol, Amyl Nitris, Lobelia, Ozonic Ether, Quebracho and Aspidospermine.

Earache.—*Local.*—Atropinæ Liquor or Oleatum (diluted), Chloroformi Vapor, Cocaina cum Oleo, Morphinæ Oleatum (diluted), Opii Tinct. cum Oleo.

Eczema.—*Internal*—Arsenic preps. Iron Salts, Morrhuæ Ol., Phosphorus, Sulphides, Sulphur.——*Local*—Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Chrysarobini Ung. (weak), Acid. Salicylic. Ung., Bismuth Nit. Glycerin., Calaminæ. Lotio, Calcis Aqua, Calcis Linim., Diachyli Ung., Huile de Cade, Kaolin Ung., Naphthol, Plumbi Stearas, Plumbi Subacet. Glycerin. and Ung., Tar, Thymol, Zinci Cremor, Zinci Oleat. Pulv. and Ung., Zinci Ung.

Epilepsy.—Ammon. Bromid., Amyl Nitris, Argent. Nit., Arsenic, Atropine, Belladonna, Borax, Bromal-Hydras, Brucia, Camphora Monobromata, Cannabis, Cupri Ammon-Sulph., Cypripediu, Iron Salts, Ozonic Ether, Picrotoxin, Potass. Bromid., Simulo, Sodii Bromid., Sodii Nitris, Strychnine, Valerianates, Zinci Bromid., Citras, Lactas, and Sulphas.

Epistaxis.—*Internal*—Acid. Gallic., Aconite, Digitalis, Ergotin inj. hypod., Ferri Perchlorid., Ferri Pernit. Liq., Ferro-Alumen, Hamamelis, Terebinth. Ol.——*Local*—Acid. Tannic., Alumen, Hamamelis, Matico, Styptic Colloid, Urticæ dioicæ Ext. Liquidum.

Erysipelas.—*Internal*—Aconite, Belladonna, Digitalis, Ergot, Ferri Perchlorid., Veratrum viride.——*Local*—Acid. Sulphuros. Lotio, Amylum, Amyli Glycerin., Argent. Nit., Belladonnæ Glycerin., Calaminæ Lotio, Cocainæ Ceratum, Collodium, Creasotum et Amylum, Ergotine in Sol., Gossyp. Acid. Boric., Iodi Pigment., Potassii Silicatis Sol.

Erythema.—*Local*—Amyli Glycerin., Anthemid. Infus., Diachyli Ung., Kaolin and Lotio or Ung., Papav. Infus., Plumbi Subacet. Lotio., Vaseline, Zinci Oxid. and Ung.

Exophthalmic Goitre.—Belladonna, Digitalis, Duboisine, Iron Salts, Quinine preps.

Eye: Pupil, Contractors of.—Jaborandi and Pilocarpine, Opium and Morphine, Physostigma and Eserine.

Eye: Pupil, Dilators of.—Belladonna and Atropine, Cocaine, Daturine, Duboisine, Homatropine, Hyoscyamine, Nicotine.

Eye: Local Dilators, but Contract when given internally in suitable doses.—Gelsemine, Muscarine.

Fainting.—See **Collapse.**

Favus.—See **Parasites, Vegetable, of Skin.**

Fetid Breath.—See **Breath, Fetid.**

Fetid Perspiration.—See **Perspiration, Fetid.**

Fetid Nasal Discharges.—See **Ozœna.**

Fever.—Acid. Salicylic., Aconite, Ammon. Acet. Liq. and Carb., Antimony, Antipyrin, Belladonna, Chinoline, Cinchonine, Cinchonidinæ Sulph., Digitalis, Eucalyptus Globulus, Gelseminum, Kairine, Piperine, Potass. Acet. Chloras and Citras, Quinine preps., Quinidinæ Sulph., Quinetum, Salicin, Sodii Salicylas, Thallin, Veratrum viride, Warburg's Tincture.

Fissures of Nipples.—*Local*—Acid. Tannic. Glycerin., Alcohol, Argent. Nit., Calcis Aqua, Cocainæ Hydroch. Liquor, Collodium Flexile, Hydrastis Tinct., Plumbi Subacet. Glycerin., Styptic Colloid.

Flatulence.—Acid. Carbolic., Acid. Sulphuros., Æther. Spt., Asafœtida, Bismuth preps., Capsicum, Carbo Ligni, Chloromorphinæ Liquor, Creasote, Magnesia preps., Menispermin, Menth. Pip. Ol., Nux Vomica, Sodii Bicarb., Sulphocarbolates, Zingiberis Tinct.

Gall Stones and Hepatic Colic.—Æther Spt., Amyl Nitris, Anæsthetics, Chloral Hydras, Iridin, Morphine preps., Nitroglycerine, Podophyllin.

Gastralgia.—Acid. Hydrocyanic. Dil., Æther. Spt., Alkalies, Belladonna, Bismuth, Calcis Aqua, Cerii Oxalas, Chloroform, Chloromorphinæ Liq., Creasote, Magnesia, Manganesii Oxid., Pepsin.

Gastric Catarrh.—See **Catarrh, Gastric.**

Glands, Enlarged.—*Internal*—Calcii Chlorid., Ferri Iodid. and Iron Salts, Iodoform, Iodum, Morrhuæ Ol., Potass. Iodid., Sodii Iodid.——*Local*—Cadmii Iodid. Ung., Hydrarg. Oleat. and Emplast., Iodi Decolor. Tinct., Iod. Linim. and Ung., Potass. Iodid. Ung.

Glaucoma.—*Local*—Eserine.

Gleet.—See **Gonorrhœa.**

Goitre.—*Internal*—Acid. Hydrofluoric. Dil., Hydrarg. Biniodid., Iodum, Phosphorus, Potass. Iodid., Sodii Iodid. ——*Local*—Acid. Acetic. inj. hypod., Acid. Osmic. inj., Hydrarg Biniodid. Ung., Hydrarg. Oleat., Hydrarg. Ung., Iodi inj. hypod. T.H., Iodi Linim. and Ung.

Gonorrhœa.—*Internal*—Aconite, Copaiba, Cubebs, Iron Salts, Potash Salts, Saline Aperients, Santali Ol.——*Local*—Acid. Carbolic., Acid. Sulphuros., Acid. Tannic., Argent. Nit., Belladonna, Bougies Urethral (See Index), Eucalyptus Oil emulsified, Hydrarg. Perchlor., Hydrastis Tinct., Iodoform, Iodof. et Eucalypti Cereolus, Iodoformi Cereolus, Potass. Permang., Sodii Silicat. Sol., Zinci Chlorid. Permang. and Sulphocarb.

Gout.—Aconite, Asparagin, Colchicum and Colchicin, Coto and Cotoin, Guaiacum, Lithii Carb. and Citras, Manganese Salts, Potass. Citras and Iodid., Sodii Phosph., Sodii Benzoas Hippuras and Iodid., Sulphides.

Gums, Inflamed, and Spongy.—*Local*—Alumen, Iodi Tinct., and cum Aconiti Tinct., Krameriæ Tinct., Myrrhæ et Boracis Tinct., Potass. Chloras, Pastil, Tablet and Troch., Pyrethri Tinct., Sodii Chloras and Troch.

Hæmatemesis.—Acid. Gallic., Acid. Sulph. Dil., Alumen, Ergota, Hamamelis, Iron Persalts, Plumbi Acet., Terebinth. Ol.

Hæmaturia.—Acid. Gallic., Antimony, Camphor, Cannabis, Ergota, Ferro-Alumen, Hamamelis, Terebinth. Ol.

Hæmoptysis.—Acid. Gallic., Acid. Pyrogallic., Acid. Sclerotic., Acid. Sulph. Dil., Alumen, Digitalis, Ergota and Ergotin, Hamamelis, Opium.

Hæmorrhage.—*Internal*—Acid. Gallic., Acid. Pyrogallic., Acid. Sclerotic., Acid. Sulph. Dil., Cupri Sulph., Digitalis, Ergota, Ergotin, Eucalyptus Gum, Ferro-Alumen, Hamamelis, Iron Persalts, Plumbi Acet., Terebinth. Ol.—*Local*—Acid. Tannic., Alumen, Catechu, Cupri Sulph., Eucalyptus Gum, Ferri Perchlorid., Ferro-Alumen, Hamamelis, Matico, Styptic Colloid, Zinci Chlorid. Liq.

Hæmorrhage, Post Partum.—*Internal*—Acid. Sclerotic., Amyl Nitris, Ergota, Ergotin inj. hypod., Ergotinini inj. hypod., Gossypii Rad. Cort., Opium with Alcohol.——*Local*—Alumen, Ferri Perchlorid. Gossyp. and Liquor.

Hæmorrhoids.—*Internal*—Aloes, Cascara Sagrada Hamamelis, Liquiritiæ Co. Pulv., Piper. Conf., Rhamnus Frangula, Senna and Conf., Sulphur.——*Local*—Acid. Boric. Ung., Acid. Nit. (caustic), Gallæ cum Opio. Ung., Hamamelis, and Suppos. of, Plumbi. Subacet. Glyc. and Ung.

Hay Fever.—*Internal*—Ammonii Chlorid., Anthoxanthum, Belladonna, Grindelia, Potass. Iodid., Quinine preps.——*Local*—Acid. Salicylic. Pulv., Bismuth. Co. Pulv., Carbolised Smelling Salts, Carbon. Tetrachlor. Vapor, Cocain. Hydroch. Liquor, Quininæ Collunarium, Stramonium Fumes.

Headache, Bilious or Sick.—Euonymin, Guarana, Hydrastis, Iridin, Juglandin, Leptandrin, Myricin, Podophyllin, Sodii Phosph. Efferves., Sodii Sulph. Efferves., Sodio-Magnes. Sulph. Efferves.

Headache, Congestive or Inflammatory.—Actæa, Ammon. Chlorid., Antimony, Crotonis Ol., Hydrarg. Subchlorid., Ricini Ol., Veratri Viridis Tinct.

Headache, Nervous.—Acid. Hydrocyanic., Actæa, Ammon. Arom. Spt., Arsenic, Belladonna, Bromides, Caffeine, Camphora, Cannabis, Cimicifugin, Croton-Chloral, Ferri Valerianas, Guarana, Iron Salts, Nitroglycerine, Quininæ Valerianas, Theine, Zinci Lactas Oxidum and Valerianas.

Hectic Fever.—Acid. Benzoic. and Benzoates, Acid. Salicylic., Acid. Sulph. Aromat., Agaricus albus and Agaricin, Gelsemium, Quinine preps., Salicin, Salicylates.

Herpes, and Zoster.—*Internal*—Morphinæ. inj. hypod. (for pain), Quinine preps., Salines and Saline Aperients.——*Local*—Amyli Glycerin., Cocainæ Ceratum, Collodium, Hydrarg. Ammon. Ung., Menthol (for pain), Vaseline, Zinci Oleat. Ung., Zinci Ung.

Hiccough.—Æther. Spt., Camphora, Chloral, Chlorof. Spt., Morphine preps., Sodæ Bicarb.

Hordeolum.—*Local*—Argent. Nit., Belladonnæ Fotus, Hydrarg. et Morphinæ Oleat., Iodi Tinct.

Hydrophobia—Anæsthetics, Amyl Nitris, Cannabis Indica and Cannabin, Chloral, Curara, Morphine, Nitroglycerine, Pelletierine, Physostigma and Eserine, Pilocarpine.

Hysteria.—Actæa, Asafœtida, Bromides, Cannabis Indica, Cypripedin, Iron Salts, Nux Vomica, Phosphorus, Pulsatilla, Quinine preps., Strychnine, Valerian and Valerianates, Zinc Salts.

Impetigo.—*Internal*—Arsenic, Iron Salts, Mineral Acids, Morrhuæ Ol., Phosphorus, Quinine preps., Zinc Salts.——*Local*—Acid. Tannic. Glycerin., Hydrarg. Ammon. Ung., and Hydrarg. Ammon. cum Sulph. Ung., Iodoform. and Ung., Zinci Oleat. Ung., Zinci Oxid. Ung.

Impotence.—Arsenic, Cannabis Indica and Cannabin Tannas, Cantharides, Coca and Cocaine, Damiana, Ergota and Ergotin, Ferri Perchlorid., Nux Vomica, Phosphorus, Sanguinaria, Strychnine, Zinci Phosphid.

Incontinence of Semen. Belladonna, Ergota, Ferri Perchlorid., Ferri Phosph., and Ferri Quin. Strych. Phosph. Syrup., Gokhru.

Incontinence of Urine.—Belladonna, Calcis Phosph., Cantharides, Ergota, Ferri Iodid., Ferri Perchlorid., Gokhru.

Indigestion.—See **Dyspepsia.**

Inflammation.—*Internal*—Aconite, Antimony, Belladonna, Digitalis, Gelseminm, Hydrarg. Subchlorid. and cum Opio, Opium, Quinine preps., Salicin, Veratrina.

Influenza.—Actæa, Ammon. Acet. Liq., Æth. Nit. Spt., Ammoniæ Spt. Aromat., Antim. Tart., Camphor, Hydrocyanic Acid, Ipecac. Co. Pulv., Opium and Morphine preps., Quinine preps.——*Local*—Cocain. Hydroch. Liquor.

Insomnia.—Ammon. Bromid., Bromal-Hydras, Camphor, Camphor Monobrom., Cannabis Indica and Cannabin, Chloral, Coca, Codeina, Croton-Chloral, Hyoscyamine, Lupulin, Morphine, Narceine, Opium, Paraldehyde, Papaverina, Piscidia, Potassii Bromid., Sodii Bromid., Stramonium.

Intertrigo.—Acid. Boric. and Ung., Acid. Tannic. Glycerin., Calaminæ Lotio, Calcis Aqua, Calcii Carb., Camphor, Fullers' Earth, Kaolin, Vaseline, Zinci Cremor and Ung., Zinci Oleat. Pulv.

Intestinal Worms.—See **Parasites, Intestinal.**

Iritis.—*Internal*—Colchicum, Iodum, Hydrarg. Perchlorid. and Subchlorid., Potass. Iod.——*Local*—Atropina cum Vaselin., Atropinæ Sulph. Guttæ and Lamellæ, Belladonna, Duboisine.

Itch.—See **Scabies.**

Jaundice.—Acid. Nitro-Hydroch. Dil., Aloes, Ammon. Chlorid., Benzoates, Euonymin, Hydrarg. cum Cretâ, Hydrarg. Subchlor., Hydrastis, Iridin, Manganesii Oxid. and Mangan. Sulph., Podophyllin, Sennæ Co. Mist., Sodii Phosphas and Sodii Phosph. Efferves., Sodii Sulphas, and Sodii Sulph. Efferves., Stillingia, Taraxacum.

Laryngismus Stridulus.—Amyl Nitris, Bromides, Chloral, Coninæ Hydrobrom., Emetin, Piscidia.

Laryngitis, Acute.—Aconiti Tinct. and Pastil., Æthyl Iodid. (for Œdema), Ammon. Acetat. Liq., Antimony, Benzoini Vapor, Hydrarg. Subchlor., Juniper. Vapor, Pulsatilla, Thymol Vapor, Acid. Tannic. et Aluminis Gargarisma, Acid. Tannic. Glycerin, Argent. Nit.

Laryngitis, Chronic.—*Local*—Bismuthi Oxychloridi cum Morphinâ Insufflatio, Catechu Pulv. Insufflatio, Creasoti Vapor, Eucalypti Gum. Insufflatio, Juniperi Vapor, Pini Sylvestris Vapor.

Leprosy.—Anacardium, Gurjun Balsam, Gynocardiæ Ol.

Leucocythemia.—Digitalis, Hypophosphites, Iodine, Iron Salts, Phosphorus, Zinci Phosphid.

Leucorrhœa.—*Internal*—Iron Salts, Mineral Acids, Vegetable Tonics.——*Local*—Acid Carbolic. Lotio, Acid. Boric. Lotio, Alumen, Hydrastis, Pulsatilla, Potassii Permang., Sodii Silicat. Liquor, Tannin and Alum Injection, Zinci Sulphocarbolas.

Locomotor Ataxy.—Argent. Nit., Argent. Oxid., Morrhuæ Ol., Phosphorus, Physostigma, Pilocarpine.

Lumbago.—*Internal*—Actæa, Atropine, Belladonna, Capsicum, Cimicifugin, Colchicum, Colocynthis, Morphina inj. hypod., Potass. Iodid.——*Local*—Atropinæ Linim., Belladonnæ Linim., Capsici Linim., Menthol Linim., Opii Linim., Picis Empl., Veratrinæ Ung.

Lupus.—*Internal*—Amyli Iodid., Arsenic, Gynocard. Ol., Iodum, Morrhuæ Ol., Phosphorus, Quinine preps.——*Local*—Acid. Chromic., Camphora Salicylata, Gynocardiæ Ung., Iodoform, Petrolei Ceratum, Zinci Chlorid. Pasta, Zinci Ung.

Mammary Abscess. See **Breast, Inflammation of.**

Mania.—Actæa, Atropine, Bromides, Cannabis and Cannabin Tannas, Chloral Hydras, Conine, Daturine, Digitalis, Duboisine, Gelsemina, Hyoscyamine, Morphine preps., Opium preps., Paraldehyde.

Measles.—Aconite, and Pastil of, Æther Nit. Spt., Ammon. Acet. Liq., Ammon. Carb., Ipecacuanha, Potass. Tart. Acida.

Melancholia.—Bromides, Camphora, Coca and Cocaine, Cannabis, and Cannabin Tannas, Musk, Nux Vomica, Phosphorus, Valerianates.

Menière's Disease.—Acid. Salicylic., Bromides, Gelsemium, Gelsemine, Pelletierine.

Menorrhagia.—Acid. Gallic., Acid. Sclerotic., Acid. Sulph. Dil., Bromides, Cannabin, Digitalis, Ergota, Ergotin, Ferro-Alumen, Hamamelis, Iron Persalts, Vinca Major.

Milk, to increase flow.—Acid. Lactic., Jaborandi and Pilocarpine, Malti Ext.——*Local*—Jatropha Curcas, and Ricinus Communis, leaves and oil of.

Milk, to arrest flow.—*Internal*—Agaricus albus and Agaricin, Belladonna and Atropine, Conium, Ergota, Saline Purgatives, Sodii Iodid. —— *Local* — Belladonnæ Empl. Glycerin. and Linim., Tabaci Cataplasm.

Myalgia.—*Internal*—Actæa, Ammon. Chlorid., Atropine inj. hypod., Cimicifugin, Iron Salts, Morphina inj. hypod., Salicylates.——*Local*—Belladonnæ Glycerin. and Linim., Capsici Empl. and Linim., Ether Spray, Iodi Linim., Menthol, Opium (in poultice), Veratrinæ Ung.

Myxœdema.—Arsenic, Iron Salts, Jaborandi, Nitroglycerine, Pilocarpine, Strychnine Preps.

Nasal Catarrh.—See **Catarrh, Nasal.**

Nævi.—*Local*—Acid. Chromic., Acid. Nitric., Collodium, Sodii Ethylas, Zinci Chlorid. Iodid. and Nitras.

Nephritis.—Buchu, Copaiba, Gokhru, Hordei Dec., Jaborandi, Lini. Infus., Pareira, Santal. Ol., Triticum Repens, Uva Ursi.

Nervous Debility, Nervousness.—Acid. Hydrobromic., Acid. Phosph. Dil., Ammon. Bromid., Asafœtida, Camphora, Chloral Hydras, Cimicifugin, Cypripedin, Ignatii Tinct., Lavand. Co. Tinct., Phosphorus, Piscidia, Potass. Bromid., Quinine preps., Quininæ Valerianas, Salicin, Scutellarin, Strychnine, Sumbul, Zinci Valerianas.

Neuralgia.—*Internal*—Aconite, Actæa, Ammon. Chlorid., Ari Succus, Arsenic, Beberinæ Sulph., Bromides, Caffeine, Chloral-Hydras, Cinchonine, Cinchonidinæ Sulph. Colchicum and Colchicin, Conium and Coninæ Hydrobromas, Croton Chloral, Gelsemium and Gelsemin, Hyoscyamine, Iron Salts, Narceine, Nitroglycerine, Phosphorus, Quinine preps., Quininæ Hydrobrom., Theine, Tonga. —— *Local* — Aconiti Linim., Aconitiæ Ung., Belladonnæ Linim. and cum Chloroform., Chloral Hydras cum Camphor, and cum Menthol, Chloroform, Delphininæ Ung., Menthol, Menthol Linim., Morphinæ Oleat., Oleanodyne, Opii Linim., Po-ho-yo, Veratrinæ Ung

Night Sweats.—Acid. Gallic., Acid. Sulph. Aromat., Agaricus albus and Agaricin, Amyl Nitris, Atropine and inj. hypod., Belladonna, Calcii Chlorid., Coto and Cotoin, Homatropine, Hypophosphites, Ipecac. Co. Pulv., Iron Salts, Jaborandi and Pilocarpine, Muscarine Nit., Picrotoxin, Quinine preps., Zinci Oxid.

Nipples, Fissures of, and Sore.—See **Fissures of Nipples.**

Nymphomania and Satyriasis.—Bromides, Camphor, Conium, Tabaci Folia.

Obesity.—Alkalies and Alkaline Carbonates, Fucus Vesiculosus, Iodum, Potassii Iodidum.

Ophthalmia.—See **Conjunctivitis.**

Ophthalmia Tarsi.—*Local*—Acid. Boric. Lotio, and Ung., Hydrarg. Oxid. Flav. Ung., Iodoform. Ung., Glycerini, Plumbi Subacetatis Ung.

Otorrhœa.—*Local*—Acid. Tannic. Glycerin., Argent. Nit. and Bism. Insuffl. T. H., Alum. Insuffl., Alum and Bism. Insuffl. T. H., Calendula, Carbonis Deterg. Liq. (as Lotion), Acid. Boric. Insufflat., Iodoform Wool and Insuffl. cum Bismutho T. H.

Ozœna.—*Local*—Acid. Boric. Lot. and Ung., Acid. Carbolic. Buginarium, Aldehydi Vapor, Alumen, Alumin. Acet. Liq., Creasoti Vapor, Cupri Sulph. Buginarium, Eucalypti Globuli Infus. and Tinctura, Iodoformi Buginarium, Iodoformi Rosat. Ung., Potass. Permangan. Lotio, Sanitas (toilet), Sodii Chlorinat. Liq., Sodii Chlorid., Sodii Silic. Sol., Thymol Lotio, Zinci Sulphocarb., Zinci Sulph. Buginarium.

Palpitation.—Aconite, Bromides, Camphora, Cannabis, Cimicifuga, Convallaria, Digitalis, Valerianates.

Paralysis Agitans.—Hypophosphites, Hyoscyamus, Iron Salts, Phosphorus, Physostigma, Strychnine.

Paralysis, Diphtheritic.—Iron Salts, Pepsin, Nux Vomica, Ferri Iodid.

Paralysis, Hemiplegia.—Ergota, Iron Salts, Nux Vomica, Phosphorus, Physostigma and Eserine.

Paralysis, Paraplegia.—Ergota, Hypophosphites of Iron Lime and Soda, Iron Salts, Ergota, Phosphorus, Physostigma and Eserine, Rhois Tinct., Strychnine.

Parasites, Animal, on Skin.—*Local*—Hydrarg. Oleat., Hydrarg. Perchlorid. Lotio and Ung., Hydrarg. Ammon. Ung., Naphthalin Ung., Napthol Ung., Pyrethri Flores Pulv. and Tinct., Sapo viridis, Staphisagria, Sulphur Baths Lotion and Ung., Sulphurated Lime Lotion.

Parasites, Vegetable, on Skin.—*Local*—Acid. Boric., Acid. Carbolic., Acid. Chrysophanic. Ung., Acid. Sulphuros., Hydrarg. Oleat., Phosphor. Ol., Picrotoxin Pigment., Sodii Hyposulphit. Lotio., Thymol Ung.

Parasites, Intestinal Worms.—Areca (Ascarides and Lumbrici), Cambogia, Ferri Perchlorid. Enema (Ascarides), Filix Mas (Tænia), Hydrarg. Subchlorid., Jalapa, Kamala (Tænia), Kousso (Tænia), Mucuna, Pelletierinæ Sulph. and Tannas (Tænia), Quassiæ Enema (Ascarides), Santonin and Sodii Santonas (Ascarides and Lumbrici), Scammonium, Terebinth. Ol.

Peritonitis.—Aconite, Digitalis, Hydrarg. Subchlorid. cum Opio, Opium, Opium and Belladonna, Veratrum Viride.

Perspiration, Excessive.—*Internal*—Acid. Phosph. Dil., Acid. Sulph. Aromat., Atropine and inj. hypod., Belladonna, Ergota, Jaborandi and Pilocarpine, Picrotoxin, Quinine preps.——*Local*—Amyli Pulv., Diachyli Ung., Kaolin, Tannin, Zinci Oleat. Pulv. and cum Thymol., Zinci Oxid.

Perspiration, Fetid.—*Local*—Acid. Boric. Lotio. and Ung., Acid. Carbolic. Lotio and Ung., Acid. Salicylic. Pulv. cum Talco, Aluminii Acet. Lotio, Belladonnæ Linim., Diachyli Ung., Glycerini Plumbi Subacet. Ung., Salicylic Suet, Zinci Oleat. cum Thymol.

Phthisis.—Acid. Lactic. and Lactates, Aconite, Æthyl Iodid., Arsenic, Benzoates, Caffeine, Calcii Chlorid., Calcii Hypophosph. and Phosph., Codeine, Coto, Creasotum, Gynocardiæ Ol. (externally), Iodi Linim. and Vapor, Ipecac. Nebula, Iron Salts, Morrhuæ Ol., Pancreatin, Pepsin, Picrotoxin, Piscidia, Prunus Virginiana, Quinine preps., Salicin Salicylic Acid and Salicylates, Sodii Hypophosph., Terebenæ Vapor, Verbascum Thapsus

Piles.—See **Hæmorrhoids.**

Pityriasis.—*Local*—Acid. Boric. Lotio and Ung., Acid. Chrysophanic. Ung., Boracis Glycerin. and Lotio, Gynocardiæ Ung., Huile de Cade, Picis Ung., Glycerini Plumb. Subacet. Ung.

Pleurisy.—Aconite, Ammon. Acet. Liquor, Antimony, Bryonia, Jaborandi, Lyttæ Empl., Morphine preps., Potass. Iodid., Quinine preps.

Pleurodynia.—See **Myalgia.**

Pneumonia.—Acid. Salicylic., Aconite, Ammon. Carb., and Chlorid., Antimony, Digitalis, Hyoscyamus, Morphine preps., Quinine preps., Salines, Veratrum viride.

Post Partum Hæmorrhage.—See **Hæmorrhage.**

Pregnancy, Vomiting of.—Belladonna, Bismuth preps., Cerii Oxalas, Chloroform, Creasote, Hydrocyanic Acid, Ingluvin, Ipecac. Vin., Iridin, Morphine preps. and inj. hypod., Nux Vomica, Pepsin, Quinine preps.

Prurigo.—*Internal*—Arsenic, Bromides, Iron Salts, Pilocarpine, Quinine preps.——*Local*—Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Borax, Cocainæ Ceratum, Iodoformi Ung., Pilocarpine, Staphisagria, Sulphur. Ung., Sulph. cum Hydrarg. Ung., Tar.

Pruritus Ani, Vulvæ, &c.—*Local*—Acid. Benzoic., Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Acid. Salicylic. Ung., Acid. Sulphuros. Lotio, Alkalies (Lotion of), Alumen, Argent. Nit. Sol., Carbonis Liq. Lotio., Chloroformi Ung., Cocainæ Ceratum, Gallæ cum Opio Ung., Hydrarg. Oleat., and cum Morphinâ, Hydrarg. Subchlorid. Ung. and Lotio Nigra, Glycerini Plumbi Subacet. Ung., Potass. Cyanid. Lotio, Tannin.

Psoriasis.—*Internal*—Arsenic preps., Cantharides, Gynocardiæ Ol., Hydrarg. Iodid. Viride, Iron Salts, Morrhuæ Ol., Phosphorus, Quinine preps., Sulphur.——*Local*—Acid. Carbolic. Ung., Acid. Chrysophanic. Ung., Acid. Pyrogallic. Ung., Acid. Salicylic. Ung., Betulæ Pyrolig. Ol., Carbonis

Liq. Lotio, Fagi Pyrolig. Ol., Gynocardiæ Ol., Huile de Cade, and Ung., Icthyol, Picis Ung., Rusci Pyrolig. Ol., Sulphides (in Baths), Sulphuris Hypochloritis Ung.

Puerperal Fever.—Acid. Boric, Jaborandi and Pilocarpine, Ferri Perchlorid., Opium, Quinine, Terebinth. Ol.

Pupil of Eye: to contract and dilate.—See **Eye.**

Purpura.—Acid. Gallic., Acid. Sulphuric. Dil., Ergota, Iron Salts, Phosphorus, Quinine preps., Terebinth. Oleum.

Pyæmia.—Acid. Salicylic, Eucalyptus Globulus, Kairine, Quinine preps., Resorcin, Salicin, Sulphites.

Pyrosis.—Acid. Hydrocyanic., Acid. Hydrochlor. Dil., Acid. Nit. Dil., Acid. Sulphuros., Bismuth preps., Carbo Ligni, Cerii Oxalas, Magnesia, Manganesii Oxid., Sodii Bicarb., Sodii Sulphocarbolas.

Quinsy.—See **Throat Inflammation.**

Remittent Fever.—Apiol, Eucalyptus Globulus, Narcotina, Quinine and other Cinchona Alkaloids, Salicin, Warburg's Tincture.

Rheumatism, Acute.—Acid. Benzoic and Benzoates, Acid. Salicylic and Salicylates, Aconite, Actæa and Cimicifugin, Colchicum and Colchicin, Coto and Cotoin, Ferri Perchlorid., Lemon or Lime Juice, Opium, Ozonic Ether, Potass. Bicarb. Cit. and Nit., Quinine preps., Salicin, Trimethylamine.

Rheumatism, Chronic.—*Internal*—Actæa, Antim. Sulphurat., Arsenic, Cimicifuga, Cinchonidinæ Salicylas, Colchicum, Ferri Iodid. Syr., Ferri Salicylas., Gelseminum, Guaiacum, Iodum., Phytolaccin, Podophyllin, Potass. Iodid., and cum Quininâ, Rhus.——*Local*—Atropinæ Linim., Bellad. Linim. and Linim. Co., Camph. Co. Linim., Capsici. Emp. and Linim., Chloral cum Camphor., Eucalyptus Oil., Opii Linim., Pini Sylvest. Oleum.

Rheumatoid Arthritis.—Actæa, Arsenic, Colchicum, Ferri Salicylas, Lithii Carb. and Citras., Morrhuæ Ol., Potass. Bromid. and Iodid., Sulphides (Baths of).

Rickets.—Acid. Phosph. Dil., Calçii et Ferri Phosph. Pil., Calcis. Liq. Sacch., Calcii Chlorid., Calcii Phosph., Calcii Lactophosph. Syr., and cum Ferro, Ferri Phosph. Syr., and Comp., Morrhuæ Ol., Ferri Vinum, Wheat Phosphates Saccharated.

Ringworm.—See **Tinea.**

Salivation.—*Internal*—Acid. Hydroch. Dil., Chlorates, Coto. —*Local*—Acid. Boric., Alumen, Borax, Chlorates, Creasoti Vapor.

Sarcinæ.—Acid. Sulphuros., Calcii Chlorid., Sodii Hyposulphis, Sodii Sulphis, Sodii Salicylas.

Satyriasis.—See **Nymphomania.**

Scabies.—*Local*—Calcis. Sulphurat. Lotio, Hydrarg. Perchlorid. Ung., Naphthalin Ung., Naphthol Ung., Potass. Sulphurat. Balnea, Styracis Ung., Sulphur. Ung., Sapo Viridis.

Scalds.—See **Burns.**

Scarlatina.—Acid. Salicylic., Aconite, Ammon. Carb., Belladonna, Ozonic Ether, Potassii Chloras, Sodii Chloras.

Sciatica.—*Internal*—Actæa and Cimicifugin, Atropine, Colchicum and Colchicin, Croton Ol., Lithii Citras, Morphinæ inj. hypod., Potass. Iodid., Tereb. Ol.——*Local*—Aconitinæ Ung., Bellad. Linim., Chloroform Linim., Menthol, Menthol cum Camphorâ, Menthol Linim., Veratrinæ Ung.

Scrophula.—Calcii Phosph., Calcii Sulphid., Calcii Chlorid., Ferri et Calcii Phosph. Pil., Ferri Iodid. Syr., Ferri Phosph., Hydrarg. Iodid. Virid., Iodum., Iodoform., Morrhuæ Ol., Quinine preps., Rumicin.

Scurvy.—Lime Juice, Lemon Juice, Phosphorus, Potass. Chloras and Citras, Sassafras.

Sea-Sickness.—Amyl Nitris, Chloral Hydras, Chloroform., and Tinct. Co., Morphinæ inj. hypod., Nitroglycerine, Tablets ($\frac{1}{200}$ gr.), Potass. Bromid., Sodii Bromid., Sodii Nitris.

Shingles.—See **Herpes Zoster.**

Sleeplessness.—See **Insomnia.**

Spasm.—Aconite, Æther, Ammon. Arom. Spt., Amyl Nitris, Atropina. inj. hypod., Cajeput. Ol., Camphora, and Camphor. Spt. Fort., Chloroform, and inhaled, Chloromorphinæ Liq., Conina, Menth. Pip. Ol., Opium, Piscidia.

Spina Bifida.—*Local*—Iodi Linim., Iodo-Glycerine injected.

Stomatitis.—*Internal*—Eucalypti Globuli Tinct., Hydrastis, Potassii Chloras, Sodii Chloras.——*Local*—Acid. Boric., Acid. Carbolic., Acid. Salicylic., Acid. Sulphuros, Alumen, Borac. Glyc. and Mel., Calcis Aqua, Cupri Sulph., Myrrhæ et Boracis Tinct., Sodii Chloras. *See Pastils.*

Sunstroke.—Apomorphina, Atropinæ inj. hypod., Enemata purgative, Morphinæ inj. hypod., Quinine, Sinapis Emplast.

Syphilis, Constitutional.—*Internal*—Ammon. Iodid., Amyli Iodid., Ferri Iodid. Syrup, Hydrarg. cum Cretâ, Hydrarg. Cyanid. Pil., Hydrarg. Iodid. Rub. and inj. hypod., Hydrarg. Iodid. Viride, Hydrarg. Perchlorid., Hydrarg. Pil., Hydrarg. Subchlorid., Hydrarg. Tannas, Iodum, Phytolacca, Potass. Iodid., Sarsa, Sodii Iodid., Stillingia.——*Local*—Hydrarg. Oleat. and cum Morphinâ, Hydrarg. Ung.

Syphilis, Skin Diseases.—*Local*—Hydrarg. Ammon. Ung., Hydrarg. Emplast., Hydrarg. Nit. Ung., Hydrarg. Oleat., Hydrarg. Perchlorid. Ung., Hydrarg. Subchlorid. Balnea, Fumigation and Ung., Hydrarg. Ung., Iodoformi Gossypium, and Ung., Pix Liquida, Resorcin.

Syphilitic Sore Throat.—Alum. Garg., Borax Garg. and Mel Boracis, Hydrarg. Cyanid. Garg., Hydrarg. Perchlorid. et Potass. Chlorat. Pastil., Hydrarg. Perchlorid. Garg., Iodoformi Insufflatio and Pastil., Potass. Chloras Garg. Pastil. and Troch., Sodii Chloras Garg. and Troch.

Syphilitic Ulcers.—*Local*—Amyli Iodid Pasta, Hydrarg. Acid. Nit. Liq., Hydrarg. Oleat., and cum Morphinâ, Hydrarg. Flava and Nig. Lotio, Hydrarg. Subchlorid., Iodoform and Collodium cum Iodoformo, Iodoform Wool, Iodoformi Ung., Resorcin, Zinci Chlorid. Iodid. and Nitras.

Tetanus.—Amyl Nitris, Cannabis, Chloral Hydras, Conia, Curara, Gelseminum, Morphine, Nicotine, Opium, Pelletierine, Physostigma and Physostigmine.

Received from Mr A Bender
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